R. C. SCHENCK, Jr.

Links.

No. 136,550. Patented March 4, 1873.

Fig. 1

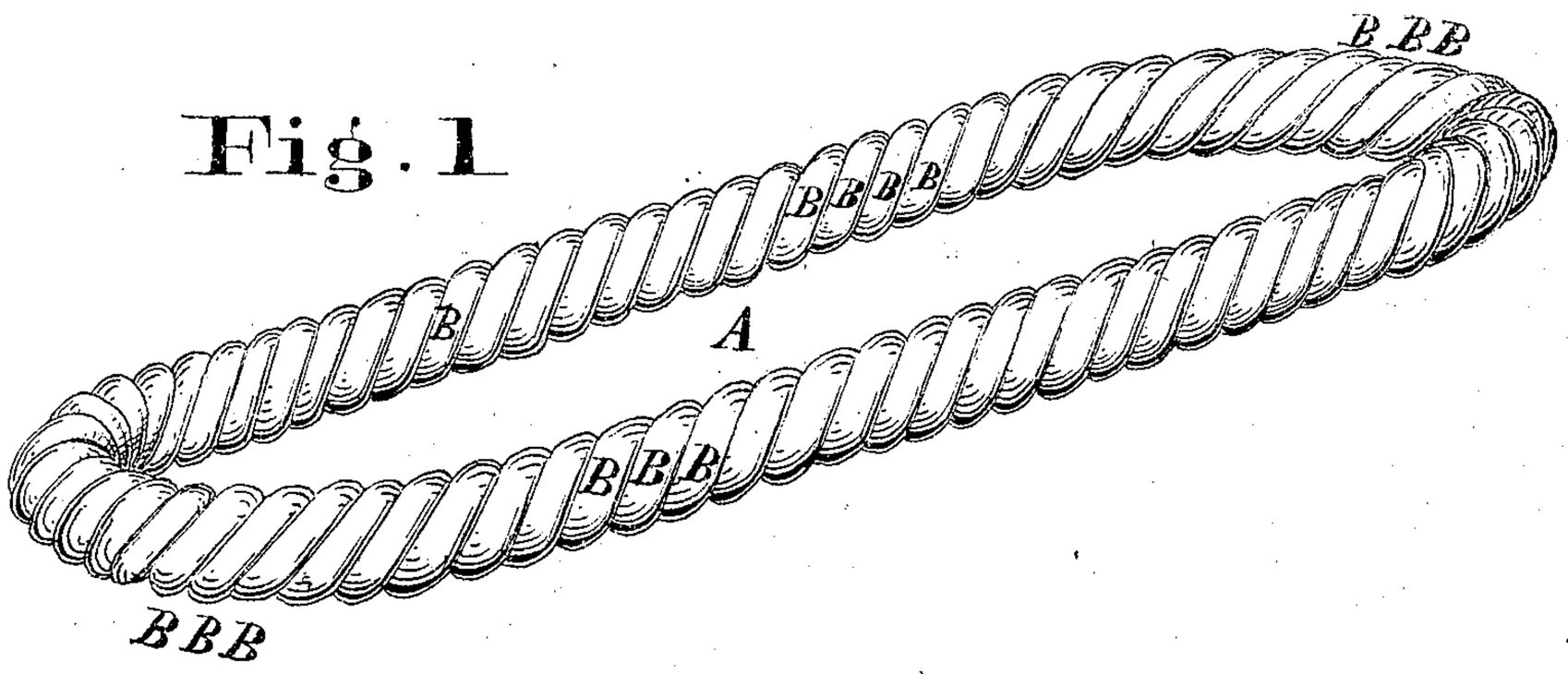
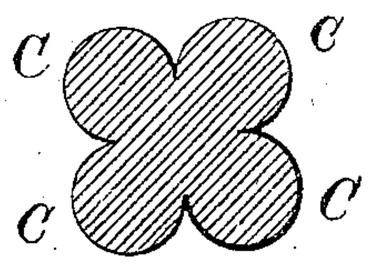


Fig. 2



Attest

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UNITED STATES PATENT OFFICE.

ROBERT C. SCHENCK, JR., OF DAYTON, OHIO.

IMPROVEMENT IN LINKS.

Specification forming part of Letters Patent No. **136,550**, dated March 4, 1873.

To all whom it may concern:

Be it known that I, ROBERT C. SCHENCK, Jr., residing at the city of Dayton, in the county of Montgomery and State of Ohio, have invented certain Improvements in Links, of which the following is a specification:

My invention relates to a link made of iron or other suitable metal for coupling together railroad vehicles, or to be used in the construction of chain cables. The first and most important part of my invention consists, generally, in twisting the metal of which the link is composed, thereby imparting to the link greater elasticity and durability. A subordinate part of my invention, and which is supplemental to the first part, is the formation of cords or flutings upon the surface of the metal of the link so that the latter will have greater elasticity and lightness than the links now in use possess, and also be but little, if any, more expensive.

In the accompanying drawing, Figure 1 is a view, in perspective, of a link embodying my invention, and Fig. 2 is an end section of the same, showing its conformation before being twisted.

A represents the twisted link as ready for use; B, B, &c., the folds of the twist, which, before being twisted, form cords or flutings, as C C, Fig. 2.

The cords are not absolutely essential to the success of the first part of my invention, as I can use a link, a transverse section of which shows a bar of any shape, as round, triangular, square, &c.; but in order to obtain the full benefit of twisting the link, I prefer that the metal of the link should be formed with cords, for the reason that a twisted link, made from a round bar of metal, has only a little elasticity; a twisted link made of a square or triangular bar of metal, while it has considerable elasticity, is open to the objection that the sharp corners on the folds would abrade the draw-bar. A link made from a twisted metal bar formed with cords has great elasticity, and will not abrade the draw-bar.

The number of cords may be varied as desired. The twisting of the metal of the link may be done by any appropriate device, and at any suitable time during the process of manufacturing the link. For example, the metal may be first rolled into a bar of the desired shape and then twisted, or the twisting and rolling may be carried on simultaneously. The amount of twisting to which the metal for the link should be subjected may be varied, as desired, and as may best suit the objects and purposes for which the link is to be used. I prefer to twist the metal of the link to such an extent that each cord will make one turn in about two and one-half inches, measured with the length of the bar forming the link. When the metal provided with cords, as described, is twisted and the link finished, the latter will assume the appearance shown in Fig. 1.

It is well-known to railroad men that the links which couple railroad vehicles, and particularly the sides of the links, are subjected to intense strain, especially at the starting of the train, and it is at this time that the link is usually broken. Chain cables are also often subjected to a sudden and intense strain.

A twisted link has more elasticity than one not twisted, as, when it is subjected to longitudinal tension, the fibers and cords, if there are any of the latter, unwind a little temporarily, thus giving themselves time to resist the sudden tension. The use of the cords in connection with the twisting is to increase the power of the fibers to unwind. A twisted link is therefore much less liable to break than are the links now in use.

In making a twisted link with cords I use as much less metal in its construction as there is difference between the weight of a common link and the weight of the same link when a portion of its metal has been removed to make the spaces between the cords and thus form the latter. The saving of metal in the twisted link will nearly, if not quite, pay for the additional cost of its manufacture, and, as a net result, I obtain a link of much greater strength than the links now in common use, and costing about the same.

I may here remark that it is not material whether the metal forming the ends of the link be twisted or not; but it is always essential to my invention that the metal forming the sides of the link be twisted.

The most important part of my invention is imparting a twist or twists to the bar or length

of metal of which the link is composed, irrespective of what the particular shape of the bar may be.

I deem the formation of cords in the metal of the link a valuable accessory for the purposes of obtaining the best results with the twist, as aforesaid.

What I claim as new is—

1. A link, the metal of whose sides is twisted, irrespective of the shape of the link or the configuration of its surface.

2. A link having its surface fluted for the purpose of giving greater elasticity to the link when twisted, substantially as described.

R. C. SCHENCK, JR.

Witnesses:

ALBERT G. CLARK,

JOHN E. HATCH.