

(No Model.)

S. M. WICKERSHAM.

EYE BAR.

No. 283,730.

Patented Aug. 21, 1883.

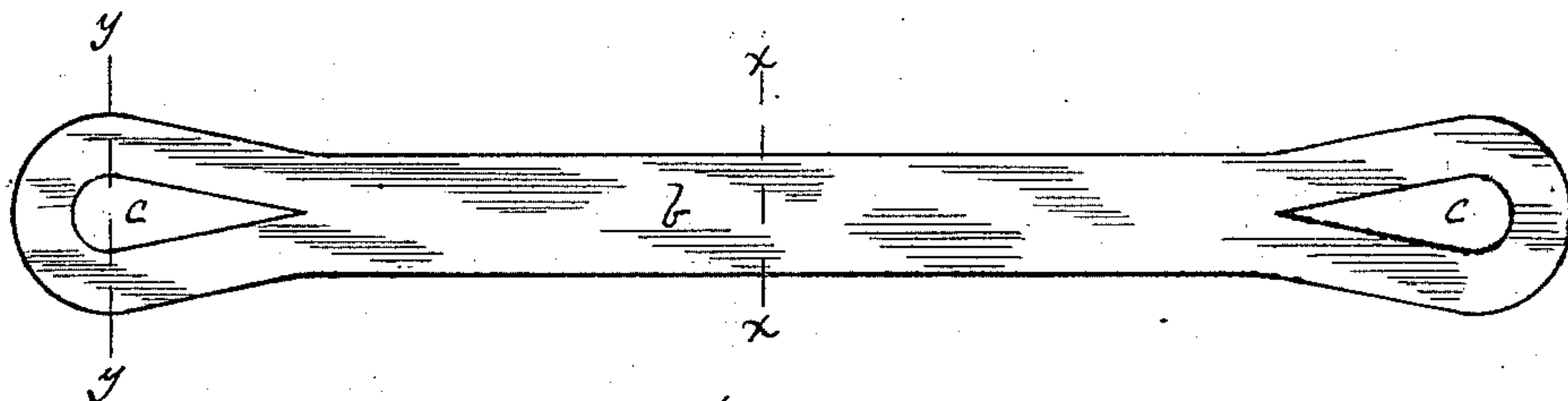


Fig. 1.

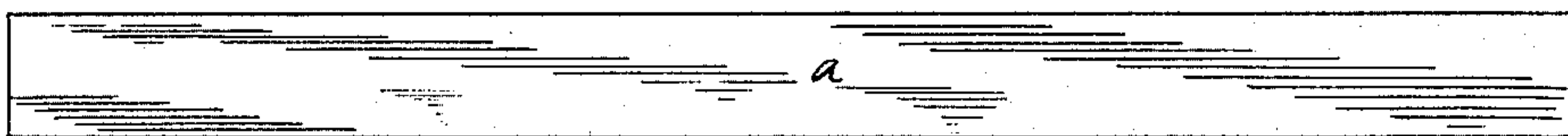


Fig. 2.



Fig. 3.



Fig. 4.

Witnesses—

John Smith
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UNITED STATES PATENT OFFICE.

SAMUEL M. WICKERSHAM, OF ALLEGHENY, PENNSYLVANIA.

EYE-BAR.

SPECIFICATION forming part of Letters Patent No. 283,730, dated August 21, 1883.

Application filed June 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. WICKERSHAM, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Eye-Bars; and I do hereby declare the following to be a full, clear, and exact description thereof.

Heretofore eye-bars for the construction of bridges and similar purposes have been made in various ways; but, as far as I can ascertain, the ends have been punched out to form the holes for the passage of the bolts. This operation has the effect of breaking the fiber, and consequently making the eye part weaker than any other portion of the bar. In some forms the bar has been rolled, so as to distort the fiber at the ends, rendering such bars not only objectionable, by reason of the breaking, but also by reason of the distortion of the fiber. The strain on the eye-bars is longitudinal, and it is very desirable to form them in such a way as to preserve not only the integrity, but also the line of the fiber.

The object of my invention is to overcome these objections and to construct an eye-bar in which the fiber or grain is neither distorted nor broken, and all the material of the blank is preserved in the finished bar.

To enable others skilled in the art to make and use my invention, I will now describe it by reference to the accompanying drawings, in which—

Figure 1 is a view of a finished eye-bar. Fig. 2 is a view of the blank. Figs. 3 and 4 are sections on the lines $x x$ and $y y$ of Fig. 1.

I first roll a bar, a , of iron or steel of the desired length, width, and thickness. I then heat the ends and slit them in the line of the fiber with a flat thin cutter; and, lastly, I open the eye to the proper size by means of a tool or drift of the required shape. The slitter and drift are operated by a suitable press. The result of this operation is the production of an eye-bar, b , such as is shown in Fig. 1. I prefer to make the eye or opening in the end

of the bar of the form shown at c , being semi-circular at its outer end and converging to a point at its inner end. This shape enables the bar to be fitted for the passage of the bolt with the least distortion of or strain upon the fiber of the metal.

It will be noticed that none of the metal of the bar is punched out in the operation of forming the eyes, but that it is simply separated and the sides of the openings are thrown but slightly out of line with the central portion of the bar.

I do not limit myself to this form of eye, as other forms may be made without cutting out any portion of the metal. An eye-bar thus formed retains all the tensile strength of the blank, and is capable of resisting greater strains than eye-bars made by any method heretofore known to me, except where additional thickness of metal is given to the eye.

The operations of slitting and expanding the eye may be done by one and the same tool and at one and the same step of the operation, and such unitary step is included in my claims. If the blank is sufficiently hot after rolling, the eyes are formed without reheating the ends.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An eye-bar having its ends slit longitudinally and expanded laterally to form the bolt-holes, substantially as and for the purposes described.

2. The herein-described method of making eye-bars, consisting of first forming a blank or bar of the desired size, and then slitting its ends longitudinally and spreading them laterally to form the bolt or rivet holes, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 20th day of June, A. D. 1883.

SAMUEL M. WICKERSHAM.

Witnesses:

W. B. CORWIN,
T. B. KERR.