(No Model.)

# G. W. DITHRIDGE.

## SILL OR BEAM.

No. 426,562. Patented Apr. 29, 1890.

Fig. 1.

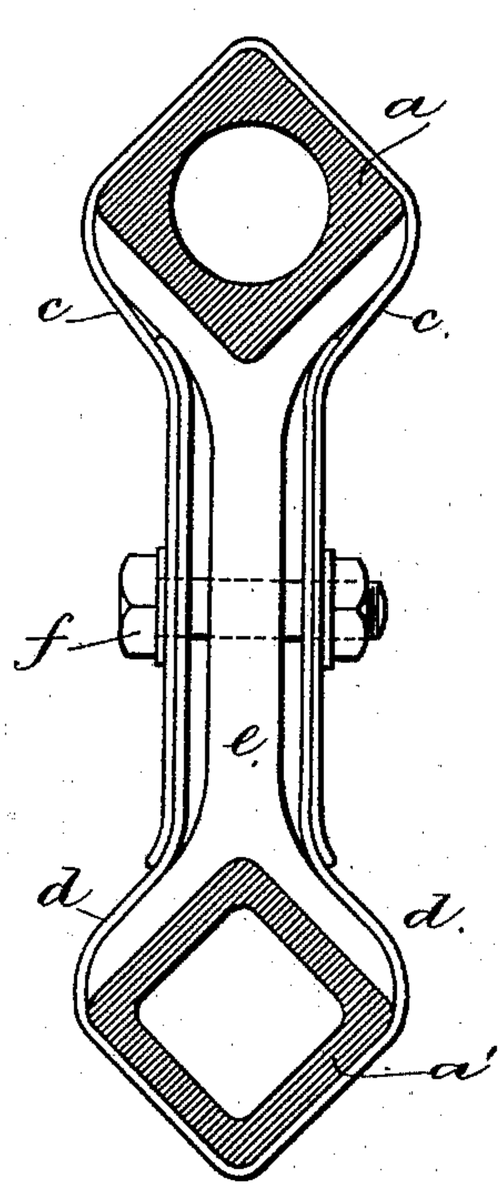
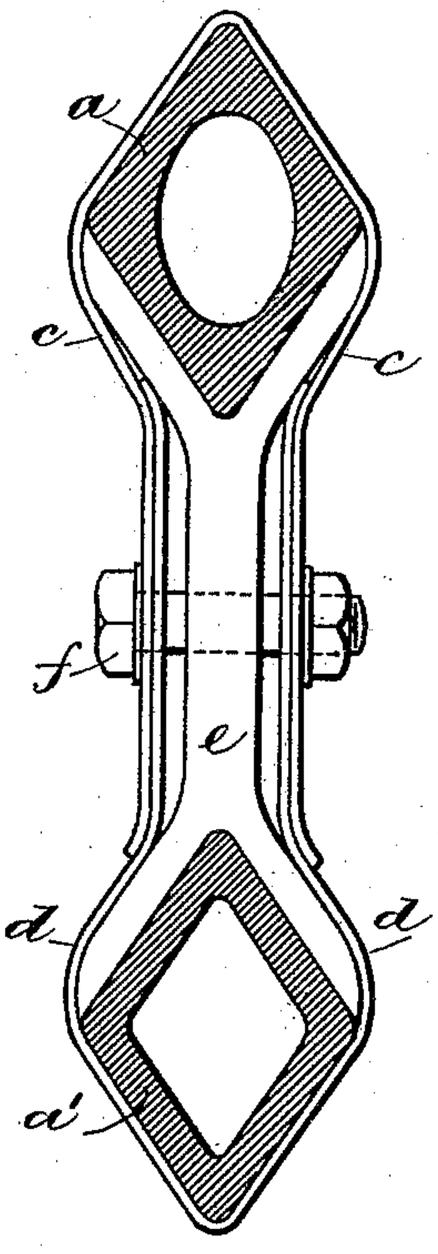



Fig. 2

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# UNITED STATES PATENT OFFICE.

GEORGE W. DITHRIDGE, OF NEW YORK, N. Y.

## SILL OR BEAM.

SPECIFICATION forming part of Letters Patent No. 426,562, dated April 29, 1890.

Application filed August 28, 1889. Serial No. 322,181. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. DITHRIDGE, of the city, county, and State of New York, have invented a new and useful Improvement in Sills or Beams, of which the following is a specification.

My invention relates to sills or side beams for railway-car bodies and to beams or girders for buildings and elevated railway or other structures.

My invention consists in a beam, girder, or sill composed of upper and lower prismatic edge tubes, there being straps and bolts and central stay-blocks at intervals for connecting the said tubes together to form a rigid structure adapted to use in cars, bridges, and other constructions.

In the drawings, Figures 1 and 2 are cross-sectional views of my improved sill or beam.

My improved sill or beam is composed of upper and lower edge tubes *a a'*, that are quadrangular or prismatic in cross-section.

In Fig. 1 I have shown the tubes as rectangular in section with rounded edges, and the upper tube *a* with a circular bore or longitudinal hole and the lower tube *a'* with a square opening, the metal being of nearly uniform thickness.

In Fig. 2 the tubes *a a'* are in cross-section a lozenge or diamond shape on the exterior, the upper tube *a* having an elliptical hole or opening, and the opening in the lower tube *a'* is similar in shape to the exterior of the tube.

I prefer to employ tubes of the sectional shape of the tubes *a a*, Figs. 1 and 2, because the same are thicker adjacent to the angular edges and are stiff and more rigid both vertically and horizontally, and are a new article of manufacture especially adapted to withstand the thrust upon the top member of the girder. These tubes I prefer to make weldless and of "Bessemer" steel.

I employ straps *c d* of any desired width, which straps I form from bands of steel bent up to shape, and said straps are passed over the edge tubes *a a'* in opposite directions, so that their ends lap and one is partially within the other. I employ stay-blocks *e*, the ends of which are forked to receive the inner edges of the tubes, and connecting-bolts *f*, passing through the straps and stay-blocks to draw up and apply tension to the straps in holding the tubes together and against the stay-blocks to form the sill or beam. These straps, stay-blocks, and bolts are at regular intervals along the sill, beam, or girder.

I claim as my invention—

1. The beam or sill composed of upper and lower prismatic edge tubes, stay-blocks having V-shaped ends to receive the edges of the tubes, and straps and bolts for connecting such tubes together to form the sill or beam, substantially as set forth.

2. As a new article of manufacture, the prismatic tubes that are quadrangular in their exterior shape sectionally, and with circular or elliptical holes, so that the metal of the tube is the thickest at the edges, substantially as set forth.

Signed by me this 22d day of August, A. D. 1889.

GEO. W. DITHRIDGE.

Witnesses:

GEO. T. PINCKNEY,

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