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JOSEPH W. CREMIN.

Improvement in Hollow Beams.

No. 122,230. Patented Dec. 26, 1871.

Fig. 1.

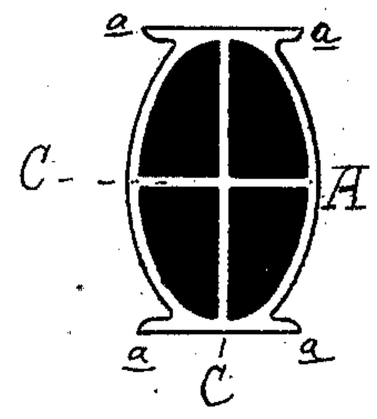
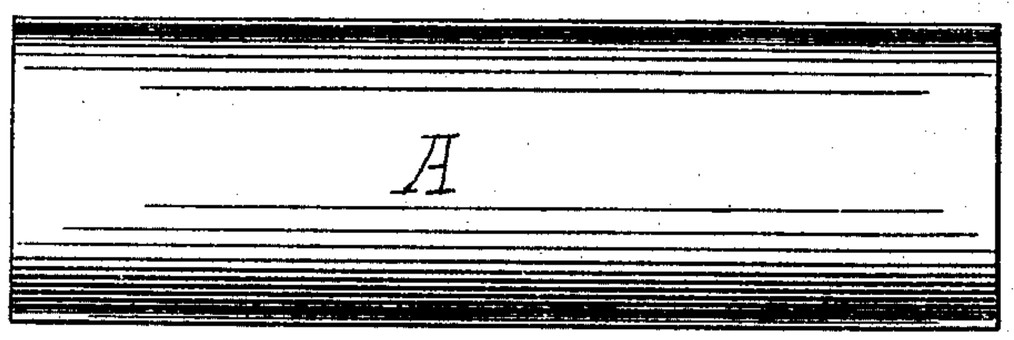


Fig. 2.



Witnesses.
A. F. Woodhill
Daniel L. Brosnan

Inventor.
Joseph W. Cremin.

UNITED STATES PATENT OFFICE.

JOSEPH W. CREMIN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE H. FAIRCHILD, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN HOLLOW BEAMS.

Specification forming part of Letters Patent No. 122,230, dated December 26, 1871.

SPECIFICATION.

Be it known that I, JOSEPH W. CREMIN, of New York, in the county of New York and State of New York, have invented a new and Improved Beam, Column, or Pole; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompany drawing making a part of this specification, in which—

Figure 1 is a view in cross-section of a beam. Fig. 2 is a longitudinal view of the same.

The invention relates to an improvement in hollow metal beams or columns by making them with solid internal longitudinal supports or webs, one running horizontally and the other vertically, the webs being solidly united with each other and to the shell, all forming only one piece. My invention consists in a hollow metal beam or column having two solid internal longitudinal webs or supports running at right angles to each other, solidly united to the tube and with each other.

A is the outside or shell of the metal tube, which may be made either by casting or otherwise, and with one or more webs. C C are the internal webs or supports running at right angles to each other and longitudinally through the tube. The oval beam or girder is to be used in building purposes generally, as, for instance, in building houses, viaducts, aqueducts, bridges, arches, &c., where great weight is to be sustained over a wide space, the oval form being much stronger than the circular, when the transverse diameter is vertical and the conjugate diameter is horizontal, running at right angles with it.

The purpose of the webs or support is apparent to strengthen the tube and prevent it from collapsing in either direction. The webs are cast or made with the shell, and at the same time, all forming one solid piece. The flanges *a a* run parallel with the conjugate diameter to keep it in position, and to equalize the pressure on the vertical diameter and sides, while the horizontal diameter strengthens the sides and keeps them from collapsing. This tube may be used for horizontal or perpendicular beams or columns, telegraph-poles, and other such purposes; in such cases the flanges, seen in Fig. 1, may or may not be used.

It is evident that the webs might be made so as to deviate a little from the position shown—or in other words, not to cross each other centrally at right angles—yet it is plain that this would be but a mere modification of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is—

A hollow metal beam of the form shown, having flanges *a a a a* and internal, longitudinal, vertical, and horizontal webs or supports, all as set forth.

JOSEPH W. CREMIN,
313 *East Fifty-first street, N. Y. City.*

Witnesses:
P. B. MUHRIHILL,
DANIEL A. BROSNAN.

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