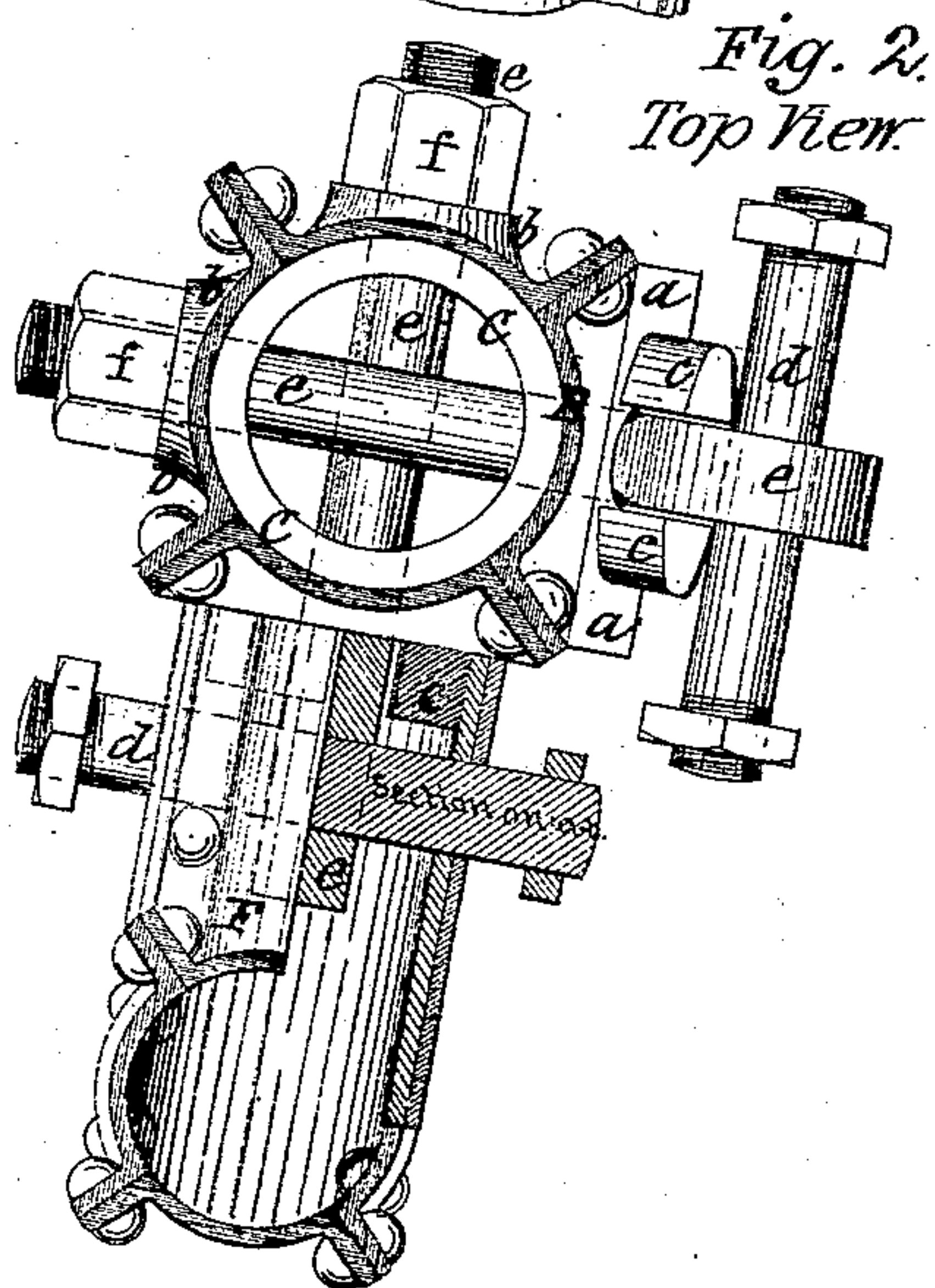
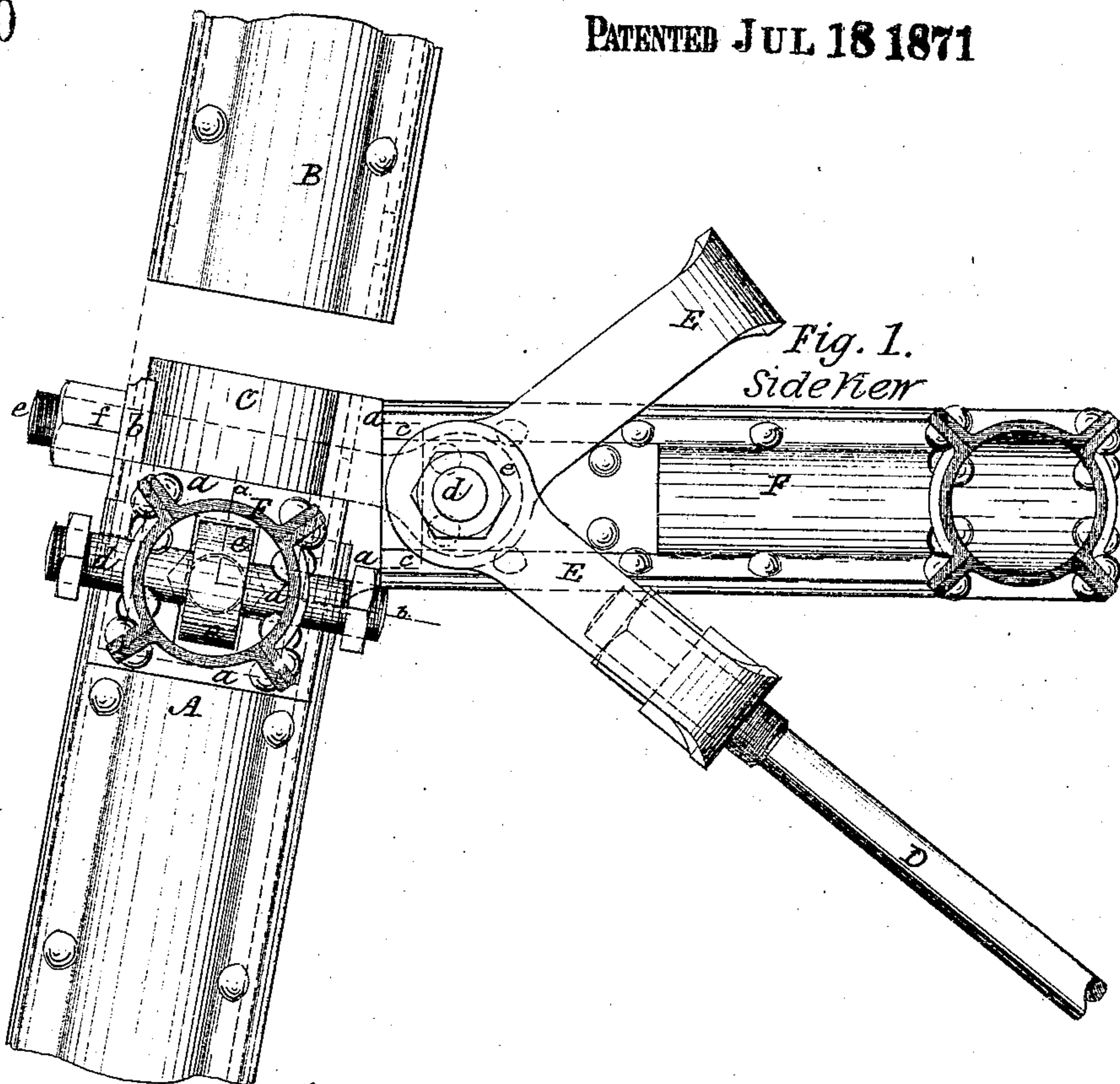


Thomas C. Clarke & Adolphus Bonzano's.
Improved Connections for Iron Bridges.

117050

PATENTED JUL 18 1871



Witnesses.
 A. B. Stoughton.
 Edmund Masson }

Inventors.
 Thomas C. Clarke
 Adolphus Bonzano }

UNITED STATES PATENT OFFICE.

THOMAS C. CLARKE AND ADOLPHUS BONZANO, OF PHILADELPHIA, PA.

IMPROVEMENT IN CONNECTIONS FOR IRON AND STEEL BRIDGES.

Specification forming part of Letters Patent No. 117,050, dated July 18, 1871.

To all whom it may concern:

Be it known that we, THOMAS C. CLARKE and ADOLPHUS BONZANO, of the city of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Connections for Iron and Steel Bridges; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figures 1 and 2 represent, respectively, a side and top view of a plan of connecting wrought-iron columns and lateral bracing by means of an interior sleeve, exterior plates, eyebolts, and pins, as will be explained.

This invention consists in connecting wrought-iron columns and lateral bracing by means of a hollow sleeve on the inside of the column, and cast-iron plates at the exterior, and pins and eyebolts, so as to form a perfect and rigid joint.

To enable others skilled in the art to make and use this invention, we will proceed to describe the same with reference to the drawing.

A and B represent two columns, which are to be united as follows: First, a hollow internal sleeve, *c*, serves as a tenon, entering both of the columns, so as to cross the joint between their adjacent ends. Exterior plates *a b* are then laid against the panels or staves of the columns, also crossing the joint between the two columns. The plates

a have projections or pockets *e* to receive the end of the lateral bracing C, through which lateral bracing a hole is made for a pin, *d*. The pin *d* passes through the eye of an eyebolt, *e*, which eyebolt in turn passes through the plate *a*, the body of the column, and sleeve, and is caught and drawn up against the plate *b* by a nut, *f*, said plate *b* being in the nature of a washer, but extending across the joint between the columns. The angle at which the lateral bracing F is to be set in relation to the column is regulated by the bevel of the plate *a*. The tie-rods D may be connected to the pins *d* by the bow or strap E.

Having thus fully described our invention, what we claim herein as new, and desire to secure by Letters Patent, is—

The combination of the pins passing through the struts and the eyebolts passing through the main column and sleeve therein, together with the splices at the outside of the column with pockets or tenons thereon to receive said struts or lateral bracing, substantially as and for the purpose described.

THOMAS C. CLARKE.
A. BONZANO.

Witnesses:

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