

(No Model.)

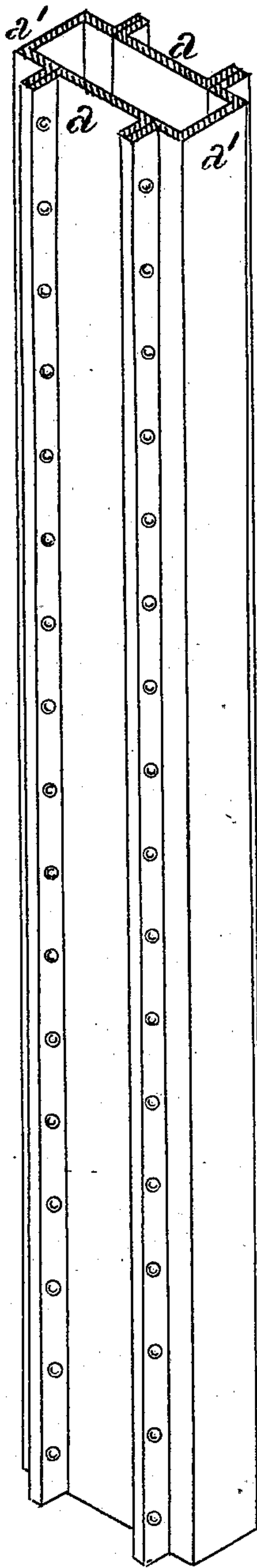
2 Sheets—Sheet 1.

E. M. BUTZ.

METAL COLUMN, PILASTER, OR GIRDER.

No. 308,827.

Patented Dec. 2, 1884.



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Fig. 1.

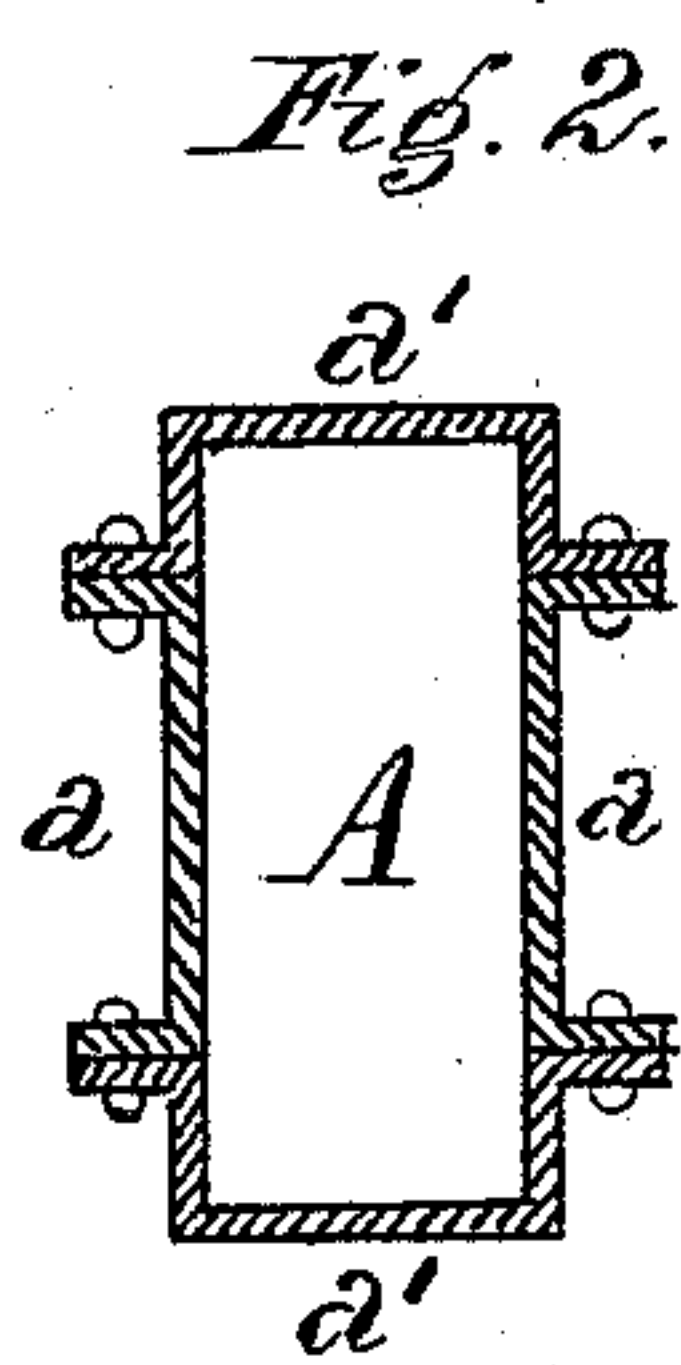


Fig. 2.

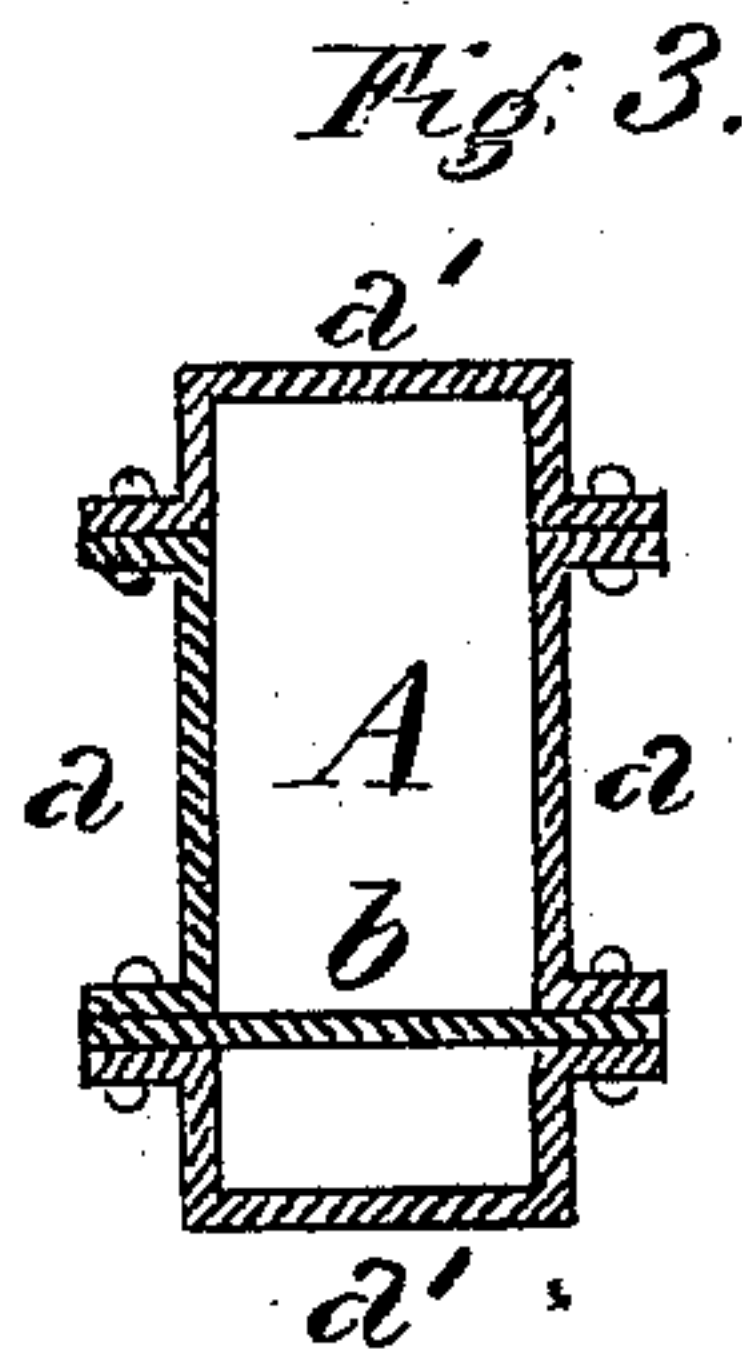


Fig. 3.

Witnesses
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By George H. Christy Atty.

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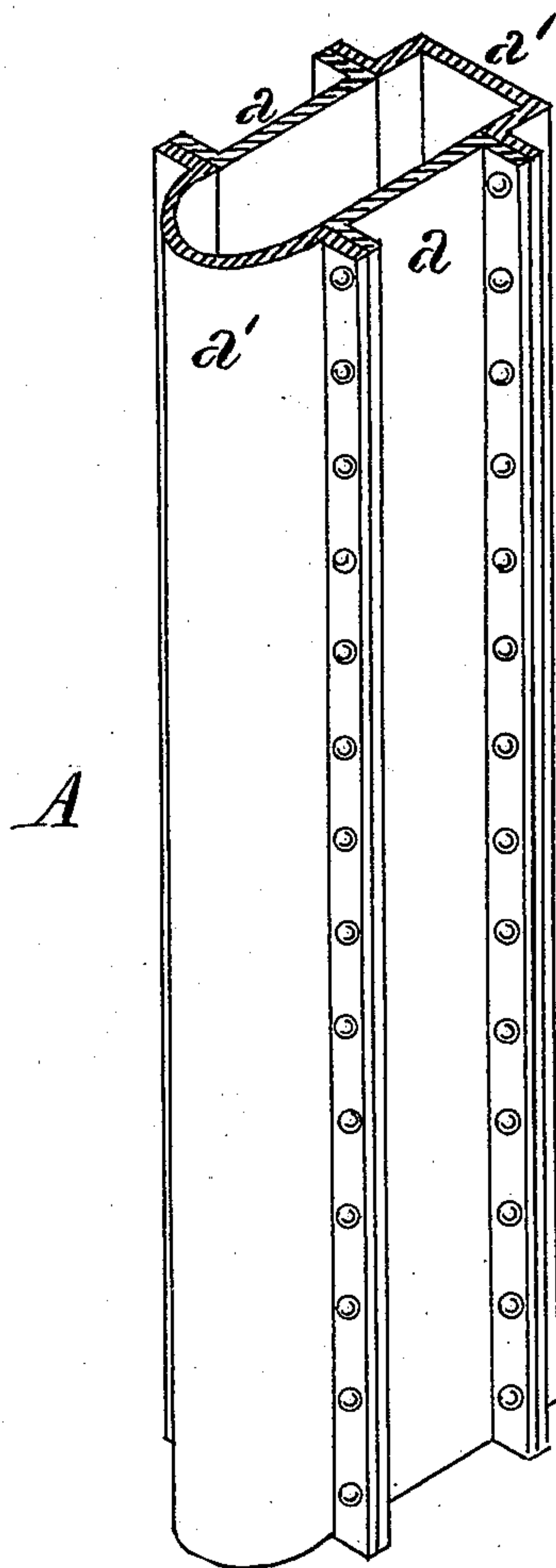


Fig. 4.

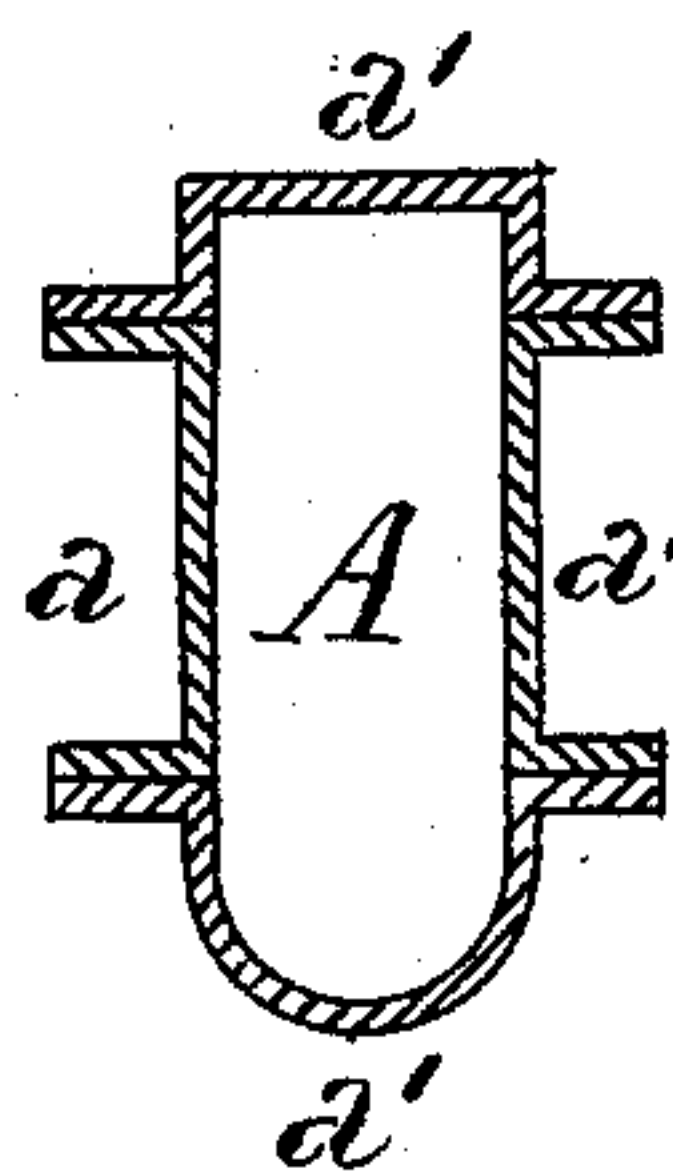


Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWARD M. BUTZ, OF ALLEGHENY, PENNSYLVANIA.

METAL COLUMN, PILASTER, OR GIRDER.

SPECIFICATION forming part of Letters Patent No. 308,827, dated December 2, 1884.

Application filed January 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. BUTZ, a citizen of the United States, residing at Allegheny, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Metal Columns, Pilasters, or Girders; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1, Sheet 1, is a perspective section of a column embodying my invention; Fig. 2, a plane transverse section through the same; Fig. 3, a similar section through the same as provided with a transverse strengthening-plate; Fig. 4, Sheet 2, a perspective section showing a modified form of the column, and Fig. 5 a plane transverse section through the same.

My invention relates to the construction of rolled-metal supporting members for buildings, bridges, and other structural uses; and my improvement consists in a series of plates, of section herein shown and described, united at their edges by bolts or rivets, and constituting a composite column, pilaster, or girder, as hereinafter fully set forth.

To carry out my invention I form of rolled iron or steel a pair of side plates, *a a*, and a pair of end plates, *a' a'*. The transverse section of the side plates, *a*, corresponds with that of the shape usually termed "channel-iron"—that is to say, a plane body portion with a perpendicular flange at each of its sides, or a semi-rectangular section. The transverse section of the end plates, *a'*, is that of a body portion bent into a hollow-backed tongue, face, or rib, and having a flange at each of the sides thereof, said flanges being in line one with the other, and being of substantially the same height as the flanges of the side plates, *a*. The side and end plates are united to form a composite column, pilaster, or girder, *A*, by bolts or rivets passing through their flanges, each end plate abutting by its flanges against the two side plates, as shown.

Additional strength and stiffness may be imparted to the column, if desired, by the interposition of a transverse strengthening-plate, *b*, between the flanges of the end and side plates, and such plate may be applied either at one end only of the side plates, as shown in Fig. 3, or at both ends, as may be preferred or deemed desirable. The body portions of the end plates, *a'*, may be either of angular or of curved perimeter, constituting in the former case a portion of a rectangle or other polygonal figure, and in the latter a segment of a circle or ellipse, and the column may have an angular end plate upon one face and a curved end plate upon the opposite face, as shown in Figs. 4 and 5.

My invention is particularly applicable in the construction of pilasters for wrought-metal fronts for buildings, and in such applications its flat faces present surfaces to which lateral members may be properly and conveniently attached where required.

I claim herein as my invention—

1. A rolled-metal column, pilaster, or girder composed of a pair of side plates, each having a plane body with a perpendicular flange at each of its sides, and a pair of end plates, each extending continuously from one side plate to the other, one or both of said end plates being bent into a hollow-backed tongue, face, or rib, with a flange at each of its sides, said plates being united by bolts or rivets passing through their flanges, substantially as set forth.

2. In a rolled-metal column, pilaster, or girder, the combination of a pair of side plates and a pair of end plates, each of section as described, and a transverse strengthening-plate interposed between and connected to the flanges of an end plate and a pair of side plates, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDWARD M. BUTZ.

Witnesses:

J. SNOWDEN BELL,
R. H. WHITTLESEY.