

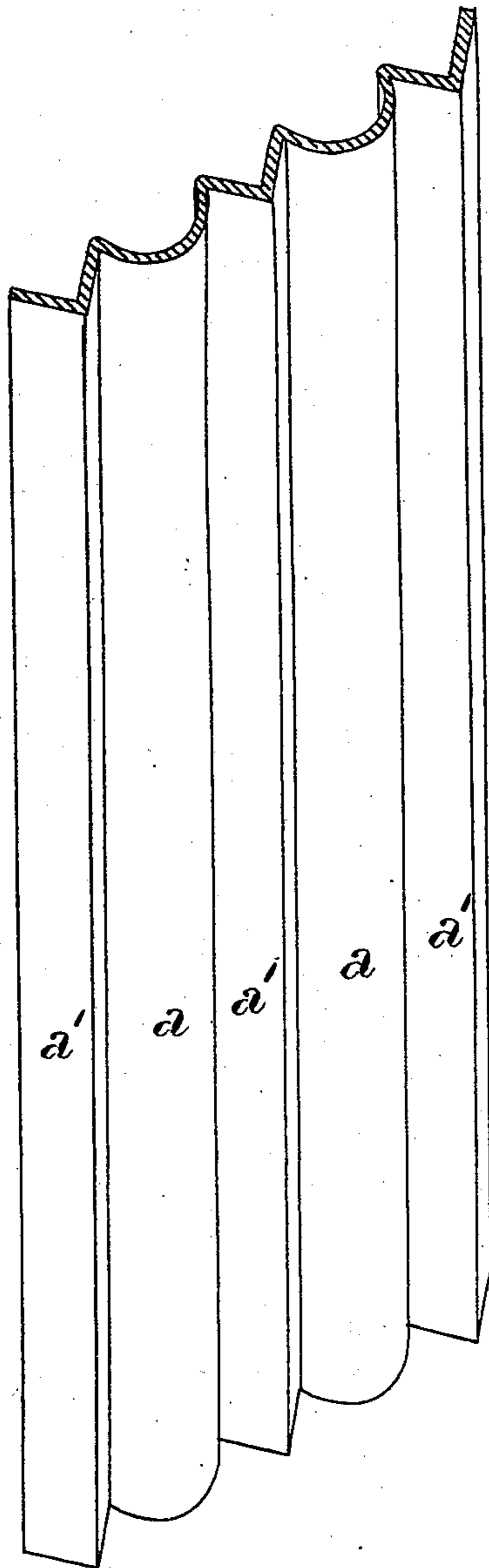
(No Model.)

E. M. BUTZ.

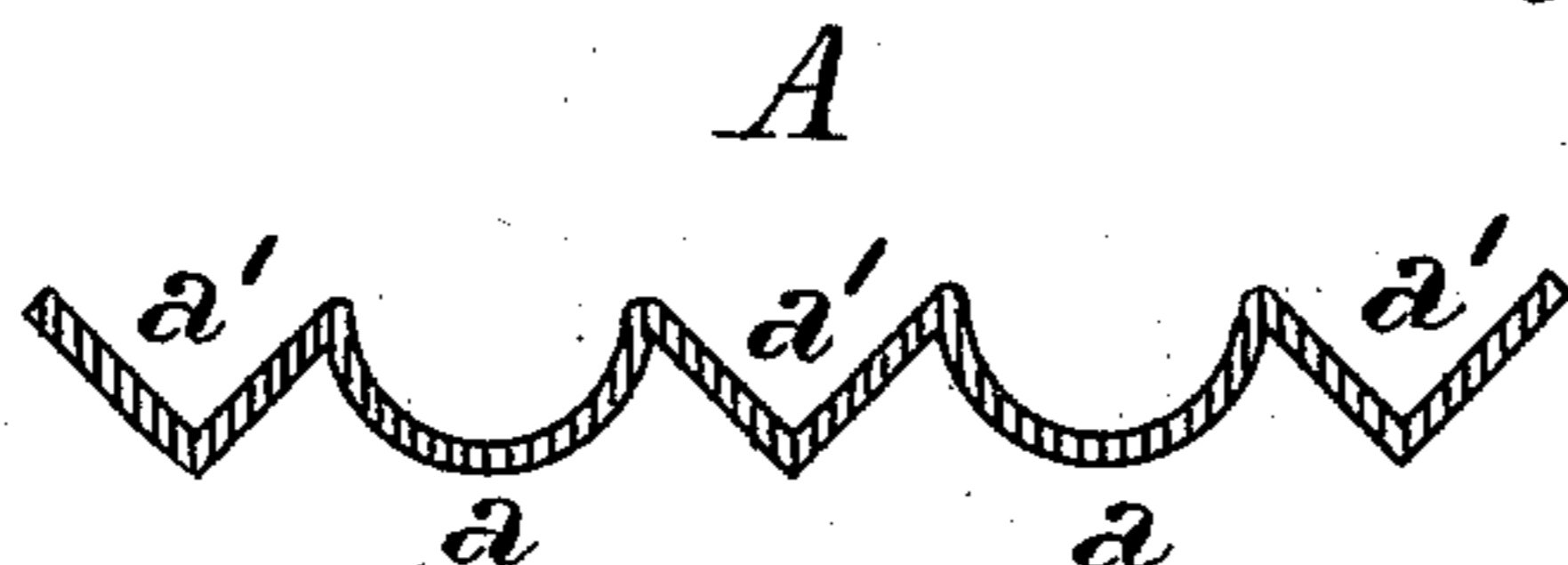
STRUCTURAL SHAPE FOR COLUMNS, GIRDERS, &c.

No. 308,826.

Patented Dec. 2, 1884.



*Fig. 1.*



*Fig. 2.*

Witnesses.  
J. Thorden Bell.  
C. M. Clark

Inventor.  
Edward M. Butz.  
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# UNITED STATES PATENT OFFICE.

EDWARD M. BUTZ, OF ALLEGHENY, PENNSYLVANIA.

## STRUCTURAL SHAPE FOR COLUMNS, GIRDERS, &c.

SPECIFICATION forming part of Letters Patent No. 308,826, 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 Structural Shapes for Columns, Pilasters, Girders, &c.; 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 is a perspective section of a metal shape plate or bar adapted for use in columns or girders embodying my invention, and Fig. 2 a plane transverse section through the same.

My invention relates to the construction of rolled-metal columns, pilasters, or girders for buildings, bridges, and other structural uses; and my improvement consists in a rolled-metal plate of a shape or section which is hereinafter fully set forth.

To carry out my invention I form, of rolled iron or steel, a plate or bar, A, the transverse section of which accords substantially with that shown in the figures—to wit, that of a series of segments, *a*, united at their ends by interposed double inclines or V's *a'*, the radii

of the segments being shorter or longer and the angles of the inclines greater or less, as desired.

In the construction of a composite column, pilaster, or girder I take one or more shapes A, of section as described, and unite it or them by rivets or bolts to one or more rolled plates, which may be of similar or of any other section desired.

It will be obvious that by combining a shape A with one or more shapes of different section the transverse form and dimensions of the columns may be varied within a wide range, as desired or required.

I claim herein as my invention—

A structural rolled-metal plate, of shape or section as described, adapted to serve as a member of a column, pilaster, or girder, said plate being in the form of a series of segments united by the intermediation of V's or double inclines, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDWARD M. BUTZ.

Witnesses:

J. SNOWDEN BELL,  
R. H. WHITTLESEY.