(No Model.)

E. M. BUTZ.

METAL COLUMN, GIRDER, OR PILASTER.

No. 304,786. Patented Sept. 9, 1884.

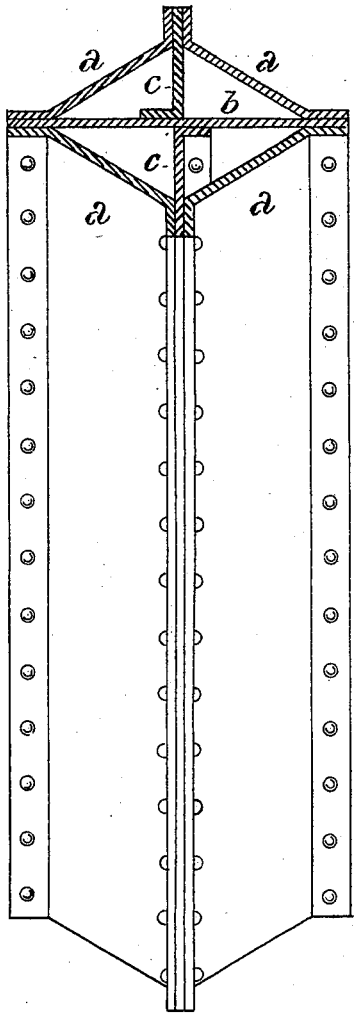

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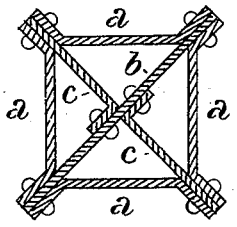
Fig. 1.

Fig. 2.



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Witnesses.
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UNITED STATES PATENT OFFICE.

EDWARD M. BUTZ, OF ALLEGHENY, PENNSYLVANIA.

METAL COLUMN, GIRDER, OR PILASTER.

SPECIFICATION forming part of Letters Patent No. 304,786, dated September 9, 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 is a perspective section of a column embodying my invention, and Fig. 2 a plane transverse section through the same.

My invention relates to the construction of metal supporting members for buildings, bridges, and other structural uses; and my improvement consists in a series of rolled-metal plates, of section herein shown and described, united 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 four side plates, *a a a a*, a main diagonal plate, *b*, and two auxiliary plates, *c c*. The transverse section of the side plates, *a*, is that of a plane body portion with an outwardly-inclined flange at each of its sides. The main diagonal plate *b* is plane from end to end, and the auxiliary diagonal plates *c* are each composed of a plane body of one-half the width of the main diagonal plate, and having a flange on one of its sides adapted to abut against one side of the main diagonal plate.

In the formation of a composite column, pilaster, or girder, the auxiliary diagonal plates *c* are secured centrally by bolts or rivets to the main diagonal plate *b* on opposite sides thereof, and with their flanges turned in opposite directions, respectively. The side plates, *a*, are then secured by bolts or rivets passing through their flanges to the outer sides of the main and auxiliary diagonal plate, each side plate being thus connected at one of its sides to the main and at the other to an auxiliary diagonal plate, and two lines of diagonal bracing being provided. If a column whose circumscribing figure is a square is desired, as in the instance shown, all the side plates, *a*, are formed of equal width, and their flanges are equally inclined, and in the formation of a column whose circumscribing figure is a rectangle one pair of side plates is made of greater width and provided with flanges of greater outward inclination than the other pair.

I claim herein as my invention—

A rolled-metal column, pilaster, or girder composed of four side plates, each having a plane body and an outwardly-inclined flange at each of its sides, a main diagonal plate truly plane, and two diagonal plates, each having a plane body and a flange on one of its sides, said members being united by bolts or rivets, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDWARD M. BUTZ.

Witnesses:
J. SNOWDEN BELL,
R. H. WHITTLESEY.