No. 626,365. Patented June 6, 1899.

L. L. CALVERT.

BOX COLUMN.

(Application filed Oct. 10, 1898.)

(No Model.)

Fig. 1.

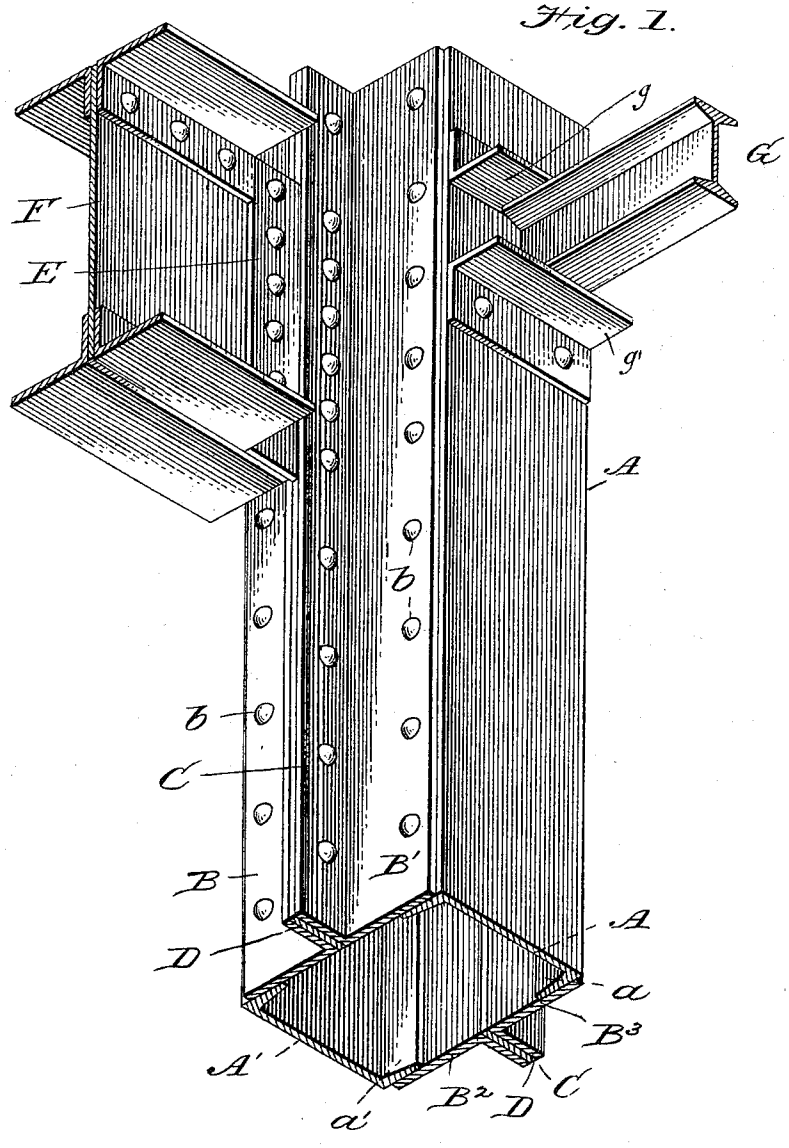
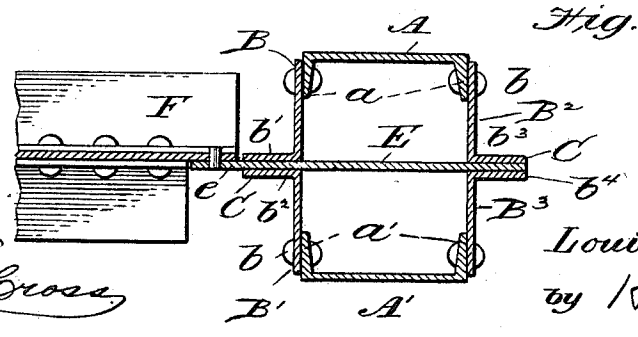


Fig. 2.



Witnesses

J. T. Cross

J. Henderson.

Inventor

Louis Lay Calvert,

by Holmes Pettis,

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LOUIS LAY CALVERT, OF PHILADELPHIA, PENNSYLVANIA.

BOX COLUMN.

SPECIFICATION forming part of Letters Patent No. 626,365, dated June 6, 1899.

Application filed October 10, 1898. Serial No. 693,074. (No model.)

To all whom it may concern:

Be it known that I, LOUIS LAY CALVERT, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Box Columns for Building Purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention has relation to certain improvements in the construction of metal columns designed more particularly for structural work in buildings, but which of course might be adapted to other uses.

The principal object of my invention is to construct a metal column with the metal placed as far from the neutral axes of the column-section as possible, so as to give the highest possible radius of gyration, or, in other words, the greatest resistance to lateral bending under vertical pressure.

Another object of my invention is to provide a column constructed entirely of stock sections, such as angle and channel bars, which are always to be found upon the market, and also constructed so as to evenly distribute the metal in the most advantageous manner, and thereby obtain great strength and durability with a minimum amount of metal in the column.

A further object of my invention is to provide easy and convenient means for connecting the floor system to the column, so as to throw or transfer eccentric loads to the center of gravity of the column-section.

With these and other objects in view my invention consists in the construction, combination, and arrangement of parts, such as will be hereinafter fully described, and particularly pointed out in the claim made hereto.

In the accompanying drawings, which form a part of this specification and in which similar letters of reference are used to indicate similar parts, Figure 1 is a perspective view of my improved column, showing the floor-girder connected by the pintle and a beam connected by angle-pieces. Fig. 2 is a cross-sectional view taken through the center of the pintle-plate.

In carrying out my invention I employ the end plates A A′, made of rolled channel-bars. The side plates B B′ B^2 B^3 are constructed of angle-bars, adapted to be secured to the flanges of the channel-iron by means of suitable bolts or rivets, as *b*, at the sides, as illustrated, thus forming a rectangular column, with outwardly-projecting flanges C projecting on both sides from the center of the column. The flanges C are formed by the two sides b' b^2 and b^3 b^4 of the angle-bars B B′ and B^2 B^3 coming together and having the spacing-plates D placed between them along the length of the column, so as to provide room for the pintle-plate E, which is inserted and securely riveted or bolted to the flanges C at the plane of the floor. This pintle-plate E consists of a flat piece of steel, which is bolted between the flanges b' b^2 b^3 b^4 and projects on one side, as at *e*, and to which is securely riveted or bolted the girder F, adapted for the support of the flooring. By the use of this pintle-plate E, I am enabled to transfer eccentric loads to the center of gravity of the column-section, which is one of the main points of superiority of my invention over the existing columns of box form and which is of extreme importance. This method of connecting to the column shows its special adaptation to building-work where the loads on one axis are usually much heavier than on the other.

G designates a beam, which may be secured to the column by means of the angle-brackets *g g′*, one side of such brackets being bolted to the side plates A or A′ and the other side to the beam G, as more clearly illustrated in Fig. 1 of the drawings.

By my above-described construction I am enabled to produce a center-flange box column which is simple and cheap in construction, strong and durable, and can be built of the usual stock sections at any fabricating-shop.

The advantages and uses will be readily seen and understood from the above description taken in connection with the accompanying drawings.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

A four-sided metal column for building and other purposes having outwardly-projecting flanges upon two of its oppositely-disposed

faces, the remaining sides being free from projections comprising the end plates, A, A', having inwardly-projecting flanges, a, a', side plates, B, B', B^2, B^3, constructed of angle-bars bolted to the inwardly-projecting flanges, a, a', of the plates, A, A', near their outer edges, the portions, b', b^2, b^3, b^4, being bolted together to form the outwardly-extending flanges, a horizontally-disposed pintle-plate, E, secured between said portions, b', b^2, b^3, b^4, and bolted thereto, the said pintle-plate extending beyond the edges of the central flanges for attachment to the floor-girders, and longitudinally-disposed spacing-plates between the portions, b', b^2, b^3, b^4, bolted thereto in said column between the horizontally-disposed pintle-plates, the sides of the column formed by the plates, A, A', being free from projections, substantially as described.

In witness whereof I have hereunto set my hand this 6th day of October, A. D. 1898.

LOUIS LAY CALVERT.

Witnesses:
FRANK D. GRAHAM,
HORACE PETTIT.