A. M. ZIMMERS.

BUILDING MATERIAL CONSTRUCTION.

APPLICATION FILED MAR. 7, 1911.

1,023,059. Patented Apr. 9, 1912.

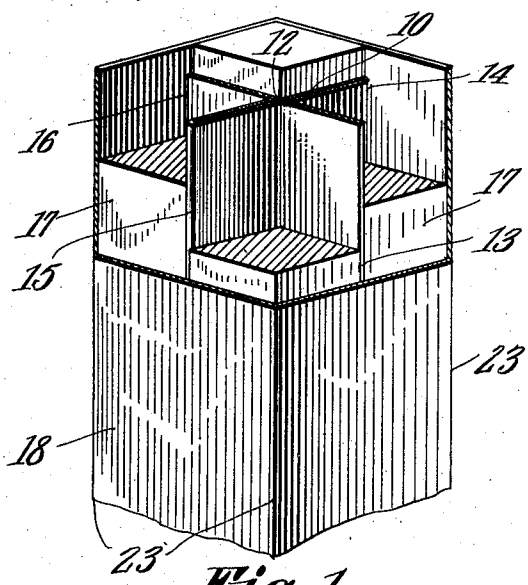

Fig. 1.

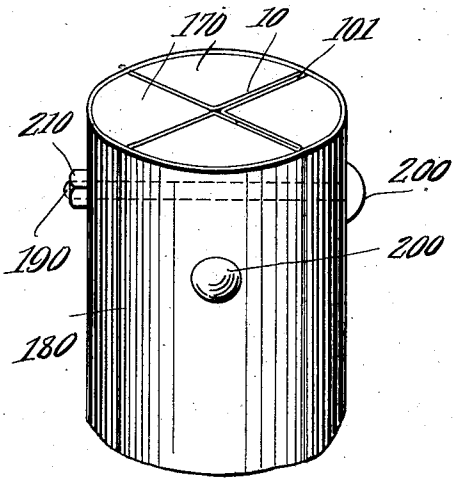

Fig. 4.

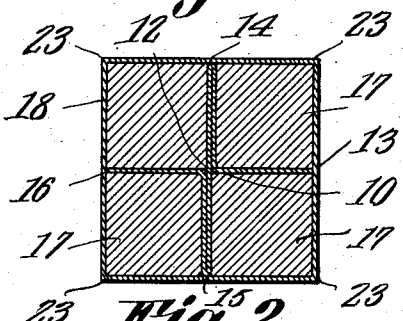

Fig. 2.

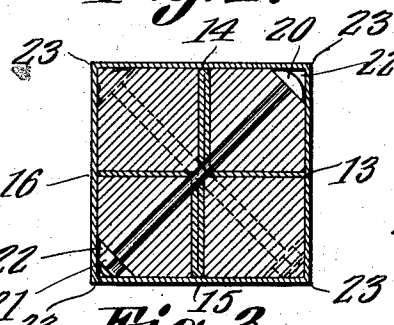

Fig. 3.

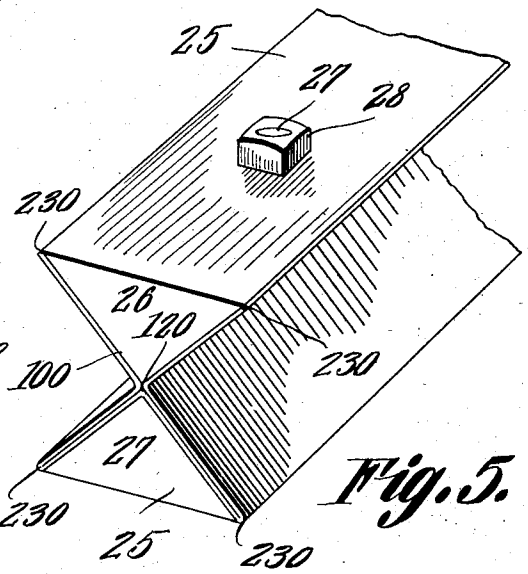

Fig. 5.

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BUILDING-MATERIAL CONSTRUCTION.

1,023,059. Specification of Letters Patent. Patented Apr. 9, 1912.

Application filed March 7, 1911. Serial No. 612,870.

To all whom it may concern:

Be it known that I, ABRAHAM M. ZIMMERS, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented certain new and useful Improvements in Building-Material Construction, of which the following is a specification.

This invention relates generally to columns for building construction, and particularly to composite columns suitable for use in buildings, porches, porticos, etc.

The object of the invention is to provide a column of the character specified which will possess all of the advantages of columns formed of a single material, such as wood, metal or concrete, but which will also be free from many of the objectionable qualities of such columns.

A specific object of the invention is to provide a composite column of the class specified having a metal core of peculiar and improved construction.

A further object of the invention is to provide a composite column of the class specified comprising a cruciform metal core of improved construction, and suitable filling pieces or gores for the angular spaces around the core.

With the specified and other objects in view, the invention consists in a column of the class specified embodying the construction, arrangement and combination of parts hereinafter fully described and afterward specifically claimed.

In order that the construction may be readily comprehended, I will now proceed to fully describe its construction and operation having reference to the accompanying drawing, which illustrates a preferred embodiment thereof, in which—

Figure 1, represents a perspective view of a portion of a column embodying the invention, parts being broken away and parts shown in section. Fig. 2, represents a sectional view on a transverse plane, through the structure of Fig. 1. Fig. 3, represents a view similar to that of Fig. 2, of a modified form. Fig. 4, represents a perspective view of a further modification, and Fig. 5, represents a perspective view of a still further modification.

Like reference characters mark the same parts wherever they occur in the several figures of the drawing.

Referring specifically to the drawing, 10 indicates the core of my improved column, preferably formed of heavy sheet metal, and cruciform in transverse section, comprising four radial wings. This core 10 is formed of a single piece of sheet metal, one edge of which extends from the periphery of the column at 13 to the center thereof at 12, at which point the sheet is bent to extend outward radially to the periphery at 14 where it is turned back upon itself, in the same radial plane, past the center 12, to and beyond the periphery at 15, whence it is again bent back upon itself in the same plane to the center 12, where it is again bent outwardly in a radial plane to the periphery at 16, the whole, forming four radial wings, being a wing 12—13 of a single thickness, a wing 12—14 of double thickness, a wing 12—15 of double thickness and a wing 12—16 of single thickness, the adjacent wings being at right angles to each other and having between them segmental spaces to receive fillers or gores 17 of any suitable material, such as wood, metal or concrete.

The core, formed as described, and the fillers or gores 17 preferably of wood being seated snugly in the angular spaces, an outer covering tube 18 of metal is applied thereon in any suitable manner, thus completing the column. In some instances, it may be desirable to further strengthen the column and as one way to do this, I have shown in Fig. 3, bolts 19 passed diametrically through the fillers 17 and core 10, with the bolt heads 20 and nuts 21 resting in recesses 22 formed in the outside of the fillers, so that said bolt heads and nuts will not interfere with the adjustment of the outer tube 18.

In Figs. 1, 2 and 3 inclusive, I have shown the completed column as square in cross section, the fillers and inclosing tube being also square in cross section, but the invention is not to be restricted to this form. In Fig. 4, the fillers 170 are shaped as sectors in cross section, which makes the outer tube 180 and the complete column cylindrical.

In Figs. 1, 2, and 3, the wings of the core terminate midway between the corners 23 of the outer tube at the points 13, 14, 15, and 16, while in Fig. 5, I have shown a modified cruciform core 100 in which the wings terminate at the corners 230.

In Fig. 4, in the cylindrical form of a column, there are bolts 190 passed through the core 101, fillers 170 and tube 180, bearing the same relation to the core and fillers

200 and the nuts 210 on the outside of the cylindrical outer tube 180 and consequently of the completed column.

In Figs. 4 and 5, the core is cruciform as in the other figures, but the wings extend from the center 120 to the corners 230, and two or more of the adjacent wings are connected by plates 25. Spaces for fillers are triangular in cross section as at 26 and bolts 27 pass through the fillers and core from points midway between the corners of the column, the bolt heads, and nuts 28, being on the outer surface of the completed column.

A column constructed as described especially with wood fillers, partakes of the lightness of a wooden column and the rigidity and strength of a metal column, is not expensive or complicated, and is adapted for use in all situations where either wood or metal columns may be utilized.

I have very specifically described the construction and form of the parts, but changes therein and variations therefrom within the spirit and scope of the invention will be evident to those skilled in the art to which the invention appertains.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

A column for building construction, comprising a core of cruciform cross section composed of a single sheet of metal bent to form two radial wings of a single thickness, two radial wings of double thickness, fillers in the angular spaces between the adjacent wings, bolts passing through the fillers and core, said fillers being provided with recesses on one of their edges for the reception of the bolt heads, and a metallic tube inclosing said core and fillers.

In testimony whereof I affix my signature in presence of two witnesses.

ABRAHAM M. ZIMMERS.

Witnesses:

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