

No. 804,427.

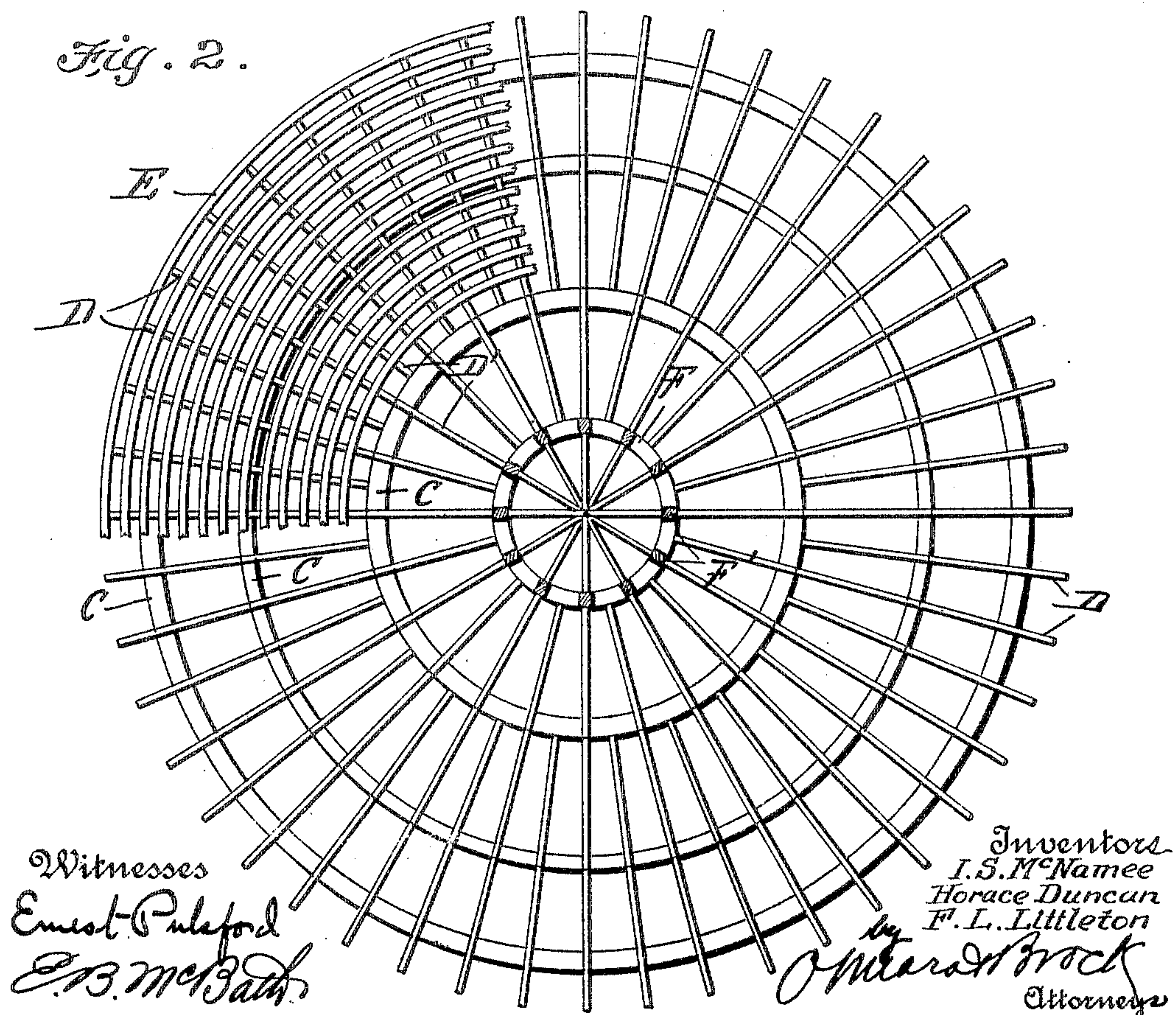
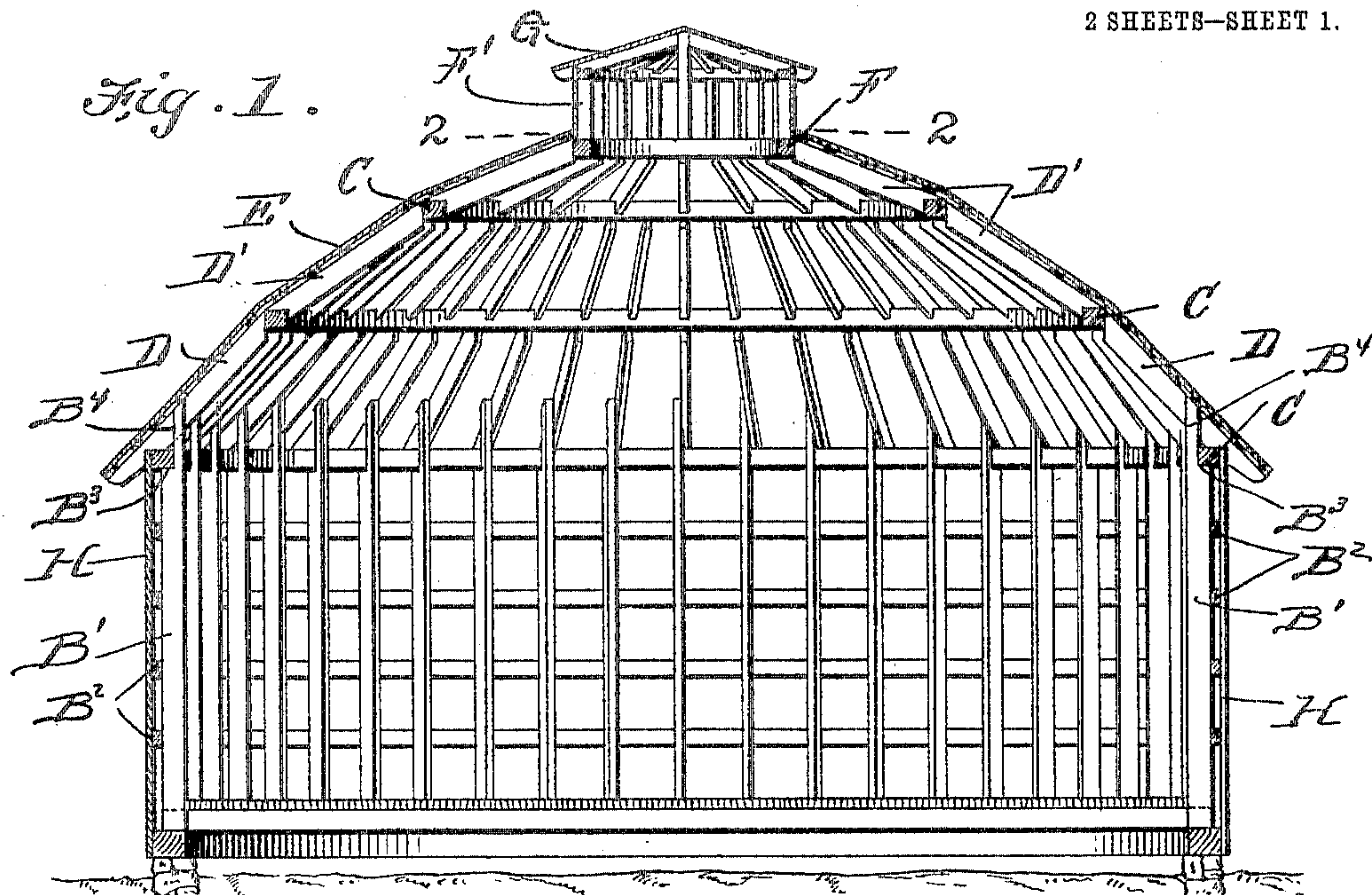
PATENTED NOV. 14, 1905.

I. S. McNAMEE, H. DUNCAN & F. L. LITTLETON.

SELF SUPPORTING CONICAL ROOF.

APPLICATION FILED DEC. 12, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

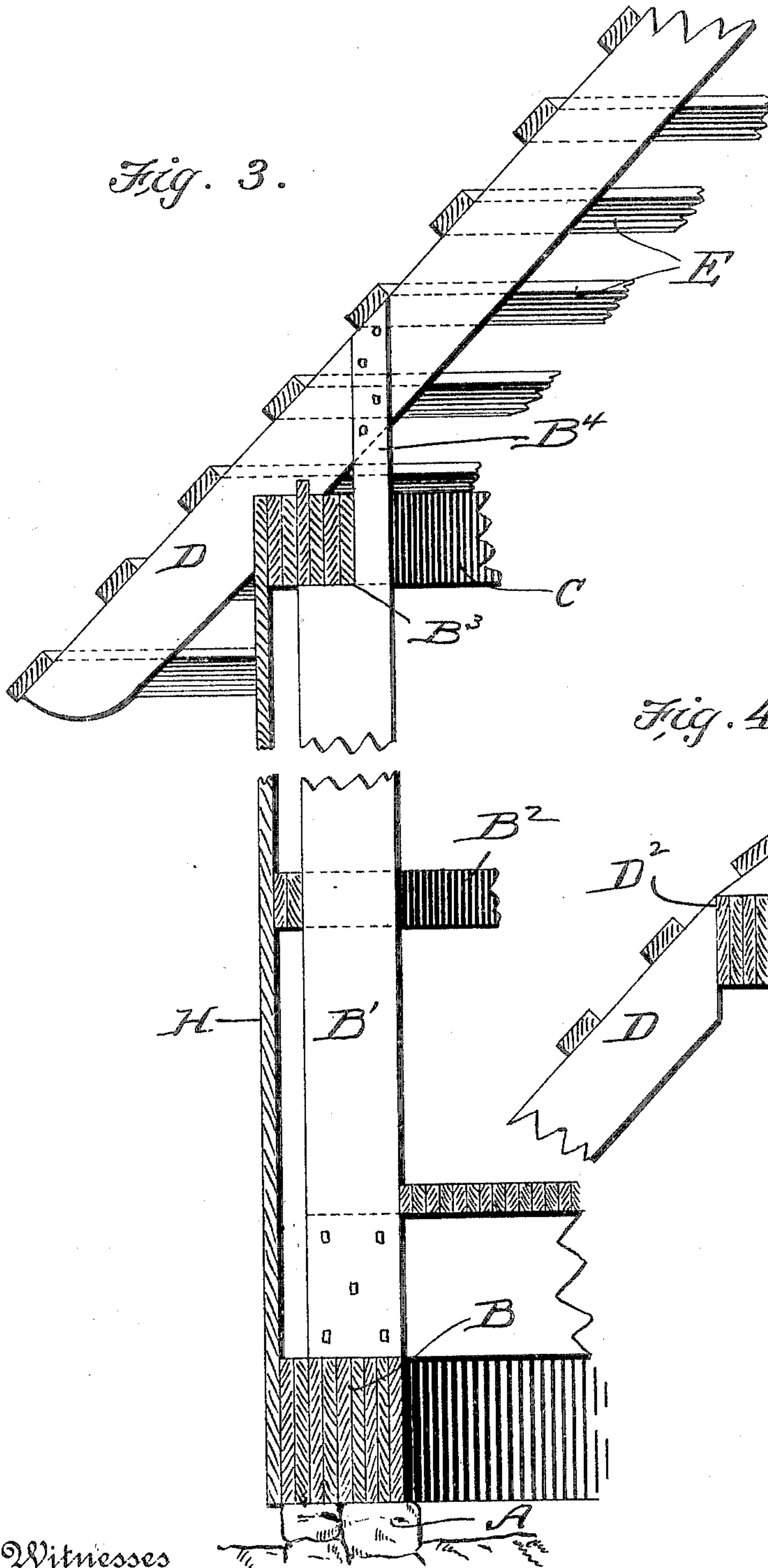
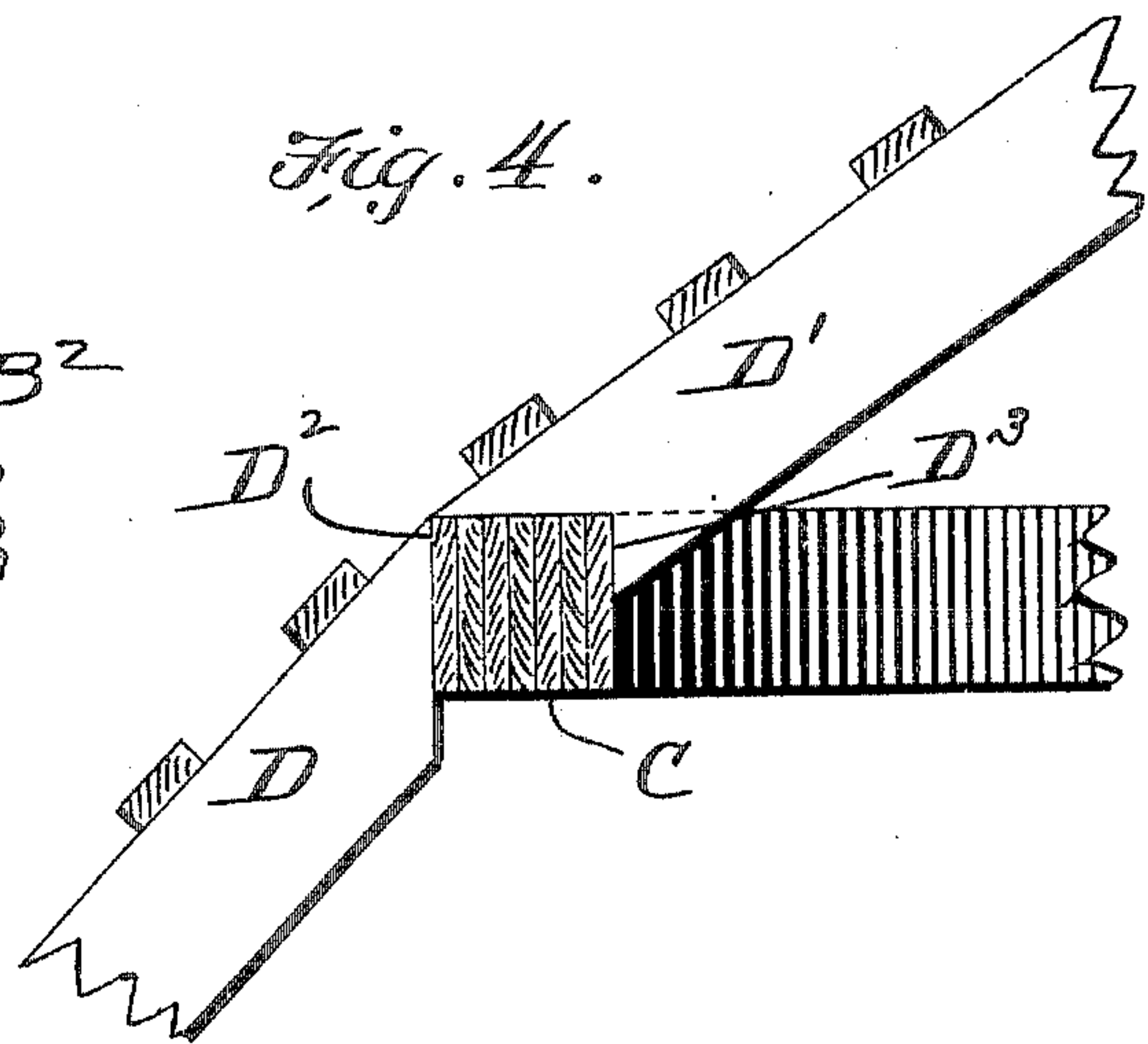


Fig. 4.



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# UNITED STATES PATENT OFFICE.

ISAAC S. McNAMEE AND HORACE DUNCAN, OF KNIGHTSTOWN, AND FRANK L. LITTLETON, OF INDIANAPOLIS, INDIANA.

## SELF-SUPPORTING CONICAL ROOF.

No. 804,427.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed December 12, 1904. Serial No. 236,524.

*To all whom it may concern:*

Be it known that we, ISAAC S. McNAMEE and HORACE DUNCAN, residing at Knightstown, in the county of Henry, and FRANK L. LITTLETON, residing at Indianapolis, in the county of Marion, State of Indiana, citizens of the United States, have invented a new Improvement in Self-Supporting Conical Roofs, of which the following is a specification.

The object of this invention is a roof circular in outline and conical in its general form, terminating at its highest point in a cupola or ventilator. The object of this construction is that the weight of the roof serves to bind the various parts closer together, thus preventing the springing of any one part when a strain, as from wind, is placed on any particular side of the roof.

A further object of the invention is a roof which will cover the largest possible area without requiring supporting-pillars, thereby leaving the space beneath the roof free for utilization as may be most convenient. By having the entire space under the roof free from obstruction a great advantage is gained especially in the construction of barns and other buildings utilized for storage purposes.

A still further object of the invention is a circular barn having an unobstructed interior which can be utilized for stabling and storage purposes, as may be most convenient.

In the accompanying drawings, Figure 1 is a vertical section through the framework of a circular barn constructed according to our invention. Fig. 2 is a plan view, a part of the sheathing having been removed. Figs. 3 and 4 are detail sectional views.

In the drawings, A represents a circular foundation of masonry, stone, brick, or concrete, as may be desired, on which is arranged a sill B. This sill is constructed of lumber approximately one inch in thickness and of any desired width, curved to conform to the curvature of the foundation A, the boards forming the sill to be nailed or spiked together and overlapping at joints. On this sill are arranged the studding, consisting of

vertical beams B'. These beams are cut out adjacent to their upper ends, as shown at B<sup>3</sup>, and are braced at suitable intervals by nail-ties B<sup>2</sup>, each of said nail-ties consisting of two or more pieces of lumber one inch thick and three or four inches wide, which break joints and are curved and form as a whole loops or bands about the structure. A plate C rests on the cut-out portion B<sup>3</sup> of the beams B', and these plates are constructed substantially in the same manner as the sill B.

The studding-beams B' have a projecting portion B<sup>4</sup>, which extends upwardly above the plane of the first plate C, and to this projecting portion of each stud is secured one of the lowermost series of rafters D. The rafters D extend downwardly beyond and below the plate C just described to form an eave. Sheathing E is carried by the rafters D, and to the sheathing shingles (not shown) are secured in the usual manner.

The number of series of rafters D will depend upon the size and character of the building, and between each series will be arranged a purlin-plate C, as shown in Fig. 4, the lower series D being beveled at their upper ends, as at D<sup>2</sup>, to bear against the purlin-plate C, arranged between the series of rafters, and the rafters D' of the series next above will be cut out, as shown at D<sup>3</sup>, to embrace the top and inner face of the said purlin-plate. These plates C will form circular bands decreasing in diameter as the building rises in height and concentrically arranged. The innermost purlin-plate will form a ring F, carrying studding F' and rafters G, forming a cupola or ventilator.

By means of this construction we do away with inner braces and columns and also avoid the necessity of the use of large and heavy beams. Suitable weather-boarding H is employed in the usual manner to form the sides of the building.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A frame construction having a circular foundation, a sill formed of boards arranged

edgewise and bent to the curvature of the foundation, studs thereon, plates comprised of boards curved and secured together, and rafters connecting the different plates.

- 5 2. In a building of the kind described, a purlin-plate composed of a plurality of boards arranged parallel to each other and curved on the arc of a circle, and means for fastening the said boards permanently to-

gether, the said boards breaking joints, as to and for the purpose set forth.

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