

(No Model.)

2 Sheets—Sheet 1

E. TERRELL & W. H. FISH.

WALL FOR THE SUPPORT OF ARCHES AND BRICKS FOR THE
CONSTRUCTION OF THE SAME.

No. 318,324.

Patented May 19, 1885.

Fig. 1.

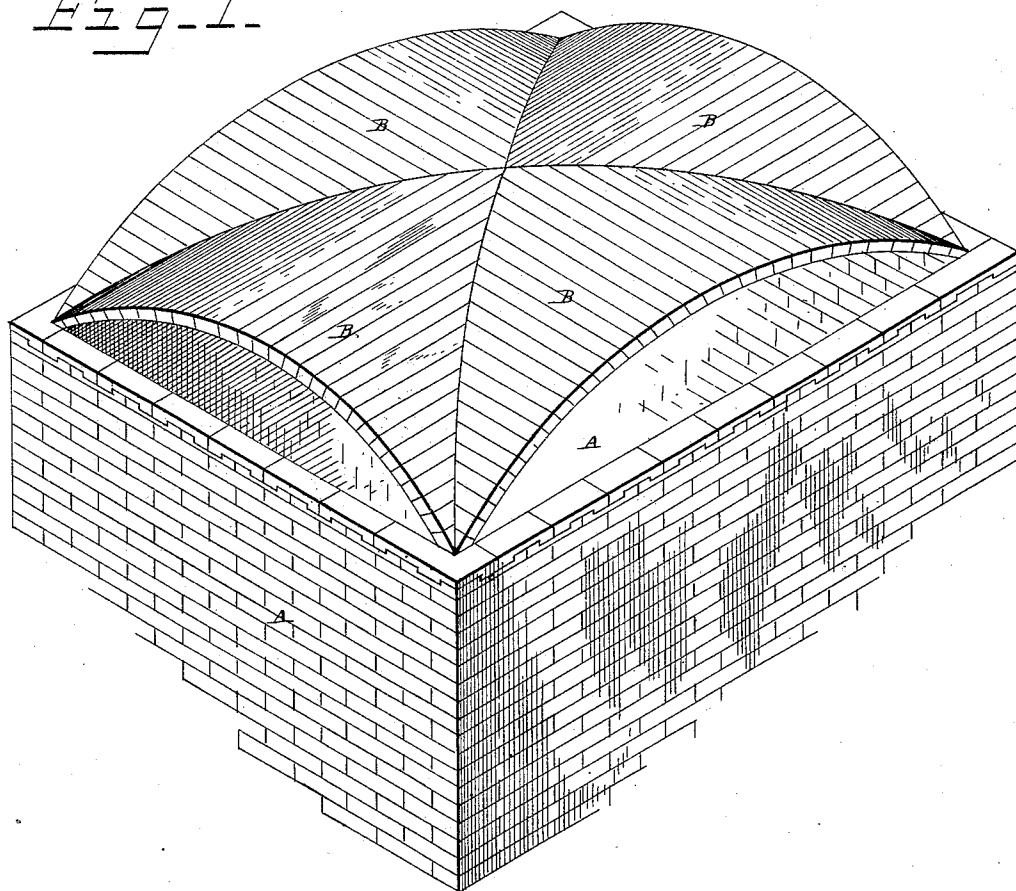
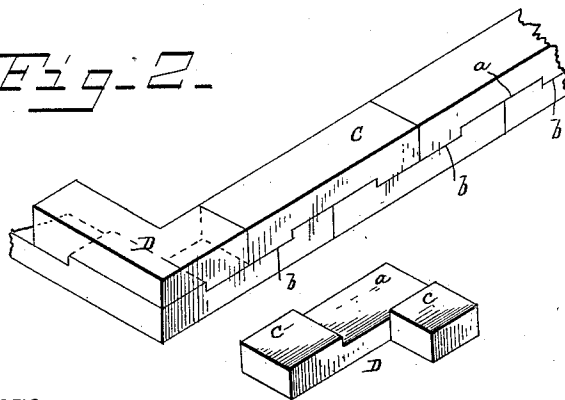


Fig. 2.



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Fig-3-

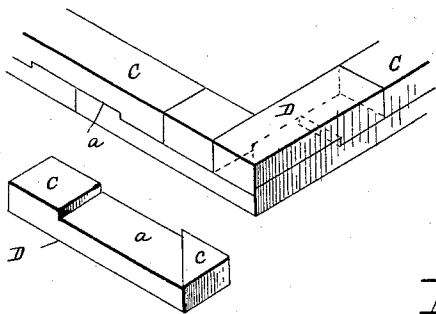


Fig-4-

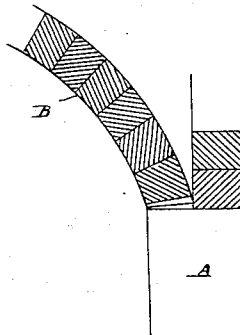
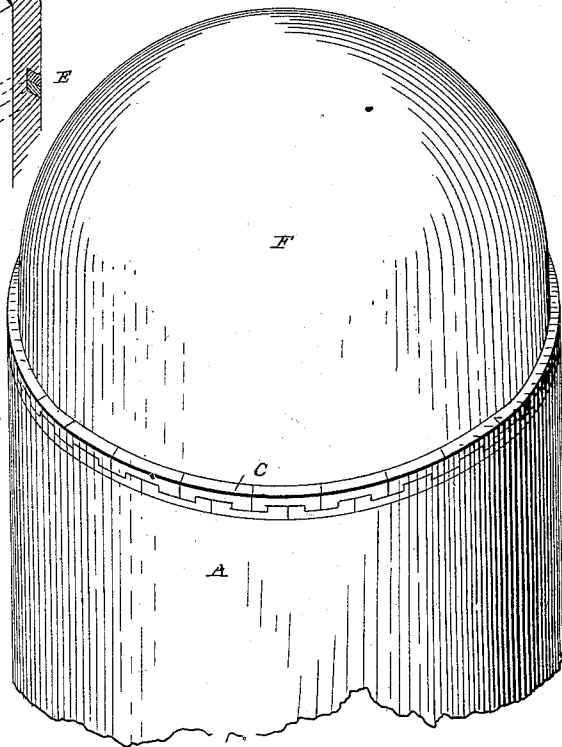
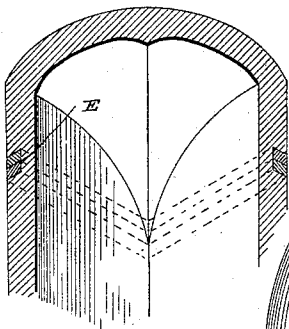


Fig-5-

Fig-6-



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UNITED STATES PATENT OFFICE.

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WALL FOR THE SUPPORT OF ARCHES AND BRICKS FOR THE CONSTRUCTION OF THE SAME.

SPECIFICATION forming part of Letters Patent No. 318,324, dated May 19, 1885.

Application filed March 9, 1885. (No model.)

To all whom it may concern:

Be it known that we, E. TERRELL and WILLIAM H. FISH, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Walls for the Support of Arches and Bricks for the Construction of the Same, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to improvements in the construction of fire-proof buildings by binding the imposts of arches, groins, or domes by interlocked courses of stone, brick, terra-cotta, or other building material.

The object of our invention is to dispense with the heavy walls and buttresses commonly used to support the groins or arches of ceilings, roofs, and domes.

Our invention consists in interlocking the brick, stone, terra-cotta, or other suitable material of which part of the wall is composed so as to bind the courses upon which the groins of the arches or base of the dome rest firmly together.

Our invention consists, further, of the interlocking of stone, brick, terra-cotta, artificial stone, or other building material, which will be fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is an isometrical view showing a groined arch and the layers of interlocking stone, brick, terra-cotta, or other building material which sustain the thrusts of the groins. Fig. 2 is an isometrical view of the interlocking brick, stone, terra-cotta, or other building material, and also a view of interlocking the corners. Fig. 3 is a similar view of a different lock on the corner of the wall. Fig. 4 is a sectional view of the groin of the arch. Fig. 5 is a view in perspective of a dome. Fig. 6 is an isometrical view of a corner of a square room, showing the interlocking courses and manner of holding the thrust.

In the construction of groined arches, domes, &c., as heretofore practiced, it has been the custom to make the walls much thicker or to build them heavy enough to stand the thrust of the arches or superstructure built thereon. Such construction is attended with considerable expense, not only of the

material placed therein, but also the expense of employing skilled labor to do the work.

In carrying out our invention, A A indicate the four walls of a room or building covered by groined arch B. The main body of the walls A are built up in the ordinary manner, and are of the usual thickness until they reach a point from whence the arches are to be sprung. At this point we employ two or more courses of interlocking stone or brick, C, and interlock the corners with the brick D.

The brick C are cut away or molded with a recessed portion, as at *a*, leaving the projecting portion *b* at each end, which, when laid in the usual way, the projecting portions *b* will fit into the recess *a* and form an interlocking layer or layers, as the case may be.

The brick D for interlocking the corners is made L shape, a portion of the brick being cut away at the triangle to leave projecting portions *c*, which interlock with the depressions of the brick in both walls, thus forming a joint or union of the walls capable of sustaining the thrusts or strains of the arches built thereon or sprung therefrom.

In Fig. 3 we have shown another form of brick for joining or interlocking the corners, in which the interlocking portions are cut or made to form a miter-joint. Other forms of brick may be used which will bind and interlock the corners and courses together, and we do not wish to be understood as limiting ourselves to the forms of corner-brick shown in Figs. 2 and 3.

In Fig. 4 we have shown the corner of the room with the walls in section and the layer or layers of interlocking brick in position.

In Fig. 5 we have shown a dome, F, built on a circular wall, A, with continuous courses of interlocking brick. The same construction will apply to groined rotundas, &c.

By this construction rooms or buildings of large area can be roofed with brick, stone, or terra-cotta without the expense of heavy supporting-walls, the tensile strain of the locked courses of brick, granite, stone, or terra-cotta being amply sufficient to resist any ordinary thrust and to support the arches built thereon.

It is also claimed that this method of construction will not only avoid the disadvantages of iron roofs and ceilings the girders of which in course of time rack the building by alter-

nate contraction and expansion, but will be cheaper in the first instance.

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

1. A support for groined or other arches, consisting of an ordinary masonry wall, in which are built courses of interlocking bricks or blocks, substantially such as shown and described, to support the thrust of the arches, as set forth.

2. A wall for the support of groined arches having embedded therein courses of interlocking bricks or blocks, the corners of said walls being also bound together by interlocking bricks or blocks, substantially such as de-

scribed, whereby the thrusts of the groins compensate each other, as set forth.

3. A brick for joining the corners of the walls provided with square or mitered projections *c* and central depressions, *a*, in combination with runner or stretcher bricks having end projections and central depressions, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ELAH TERRELL.
WILLIAM H. FISH.

Witnesses:

HENRY GUMBLE,
S. T. BOORD.