

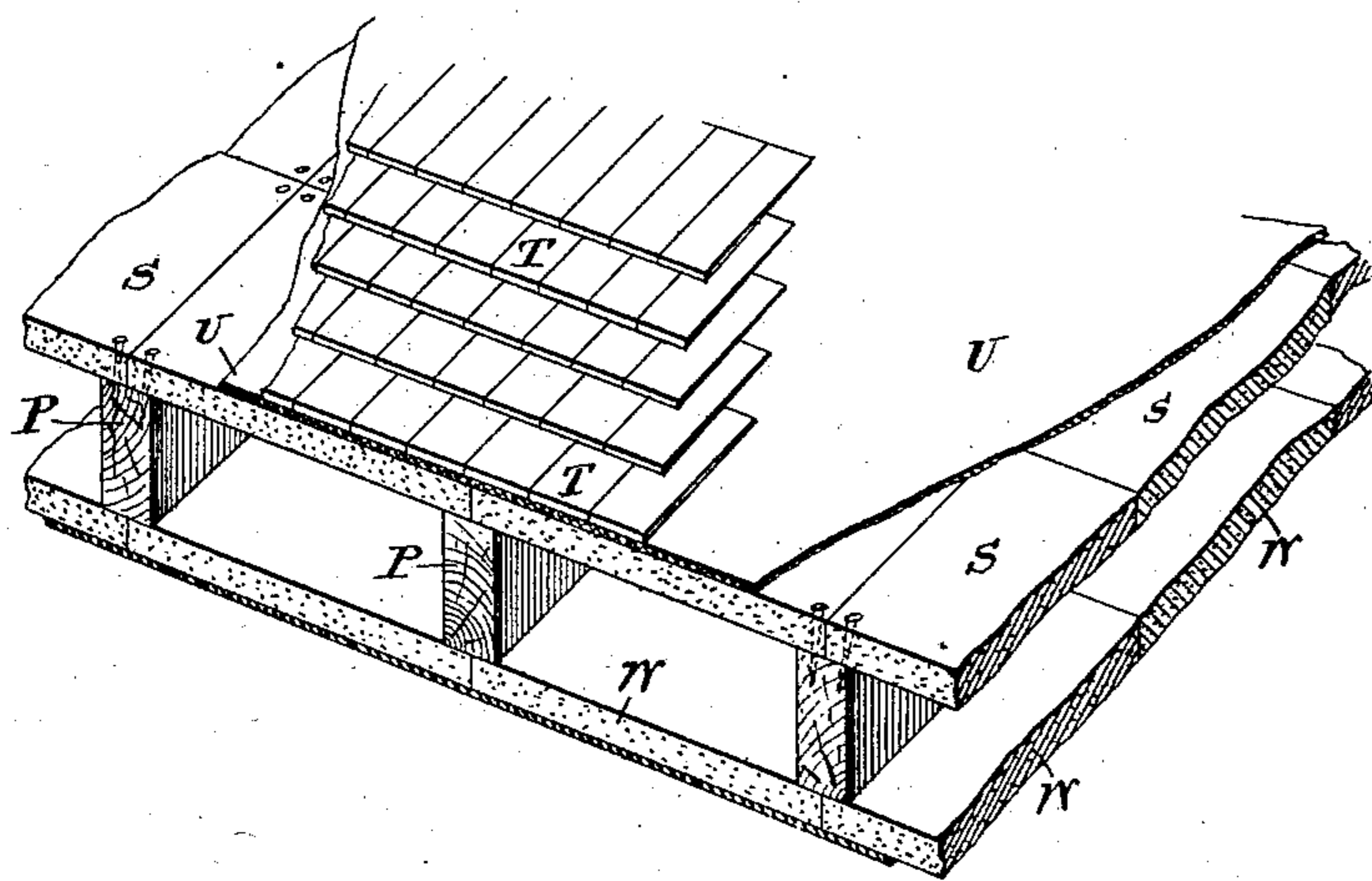
(No Model.)

C. C. GILMAN.

CONSTRUCTION OF WOODEN BUILDINGS.

No. 338,509.

Patented Mar. 23, 1886.



Attest:

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UNITED STATES PATENT OFFICE.

CHARLES CARROLL GILMAN, OF ELDORA, IOWA.

CONSTRUCTION OF WOODEN BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 338,509, dated March 23, 1896.

Application filed January 14, 1885. Serial No. 152,840. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARROLL GILMAN, a citizen of the United States, residing at Eldora, Hardin county, State of Iowa, have
5 invented new and useful Improvement in the Construction of Roofs, of which the following is a specification.

My invention involves the use of porous or cellular terra-cotta, otherwise known as "terra-cotta lumber," or any other porous burned-
10 brick material; and it consists in combining this material with other essential elements or parts of the construction to form the roof of a building or other structure.

15 In the accompanying drawing, which forms a part of this specification, is represented a perspective view of a roof embodying my invention.

Terra-cotta lumber or porous burned brick,
20 as is well known, is a non-combustible material which more effectually resists the action of fire than brick, is to a very high degree a non-conductor of heat and cold, and also of sound, is a good non-conductor of electricity, is easily
25 wrought with edged tools, and will receive and hold nails. This material I so apply in the construction of roofs as to cover or inclose the wood-work thereof, and thus effectually protect the same against destruction by fire,
30 and prevent the penetration of heat or cold into the interior.

Referring to the drawing, P represents the rafters, to which I nail or otherwise secure, in lieu of the boards usually employed, slabs S,
35 of terra-cotta lumber, from two to three inches in thickness and in length corresponding to the distance from center to center of the rafters, preferably twelve inches. Slates, tiles, metal sheets, or shingles T, first lightly bedded
40 in mortar, U, or in a covering of cement or bituminous mastic, are subsequently nailed to the said slabs. Wooden shingles bedded in lime-mortar which have been in place for a year can be detached from the slabs only with

great difficulty, the shingle, mortar, and slab 45 having apparently become one solid mass. The tightness of such a roof, its impenetrability to heat or cold, and the impossibility of burning it by outside application is evident.

To fairly fire-proof the inside of the roof 50 and to provide an additional barrier to the penetration of heat or cold, ceiling-slabs W, one or one and one-half inch in thickness, are nailed to the under side of the rafters and subsequently plastered. The spaces existing 55 between the inside and outside sheets of terra-cotta lumber afford air-chambers in depth equal to that of the rafters employed, and thus the garret can be made the coolest room in the building. This result is due not alone to the 60 air-chambers, but also partly to the fact that the terra-cotta lumber is a very bad conductor of heat and cold.

Having fully described my invention, what I desire to claim and secure by Letters Patent 65 is—

1. The combination, with the rafters, of slabs or sheets of terra-cotta lumber secured to the same and a layer of cement or its equivalent applied to the outer surface thereof, sub- 70 stantially as described.

2. The combination, with the rafters, of slabs of terra-cotta lumber secured to the same and a covering which protects the said slabs from the action of the weather and renders the 75 roof water-tight, substantially as described.

3. The combination, with the rafters, of slabs or sheets of terra-cotta lumber secured to the same, a layer of cement or its equivalent, and an outer covering of slate or shingles 80 bedded in said layer, substantially as described.

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

CHARLES CARROLL GILMAN.

Witnesses:

F. W. PILLSBURY,
H. F. DOLPH.