J. WINGRAVE.

Construction of Walls of Buildings.

No. 164,628. Patented June 15, 1875.

Fig. 1

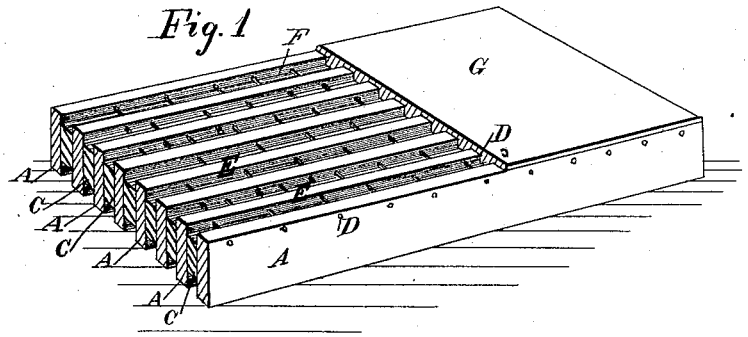
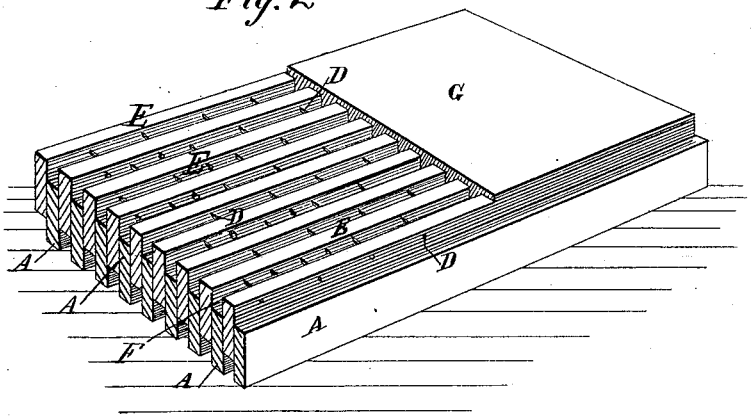


Fig. 2



WITNESSES

Theodore Munger.
Nay E. Oliphant

INVENTOR

John Wingrave

By C. A. Fowler

Attorney

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JOHN WINGRAVE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN THE CONSTRUCTION OF WALLS OF BUILDINGS.

Specification forming part of Letters Patent No. **164,628**, dated June 15, 1875; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, JOHN WINGRAVE, of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement in the Construction of Composite Houses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a perspective view of section of building materials of my invention, and Fig. 2 is a perspective view of a modification of the same.

This invention relates to an improvement in the construction of composite houses; and it consists in nailing together side to side culls, boards, planks, or laths in such a manner that their edges will present alternate projections and recesses or tongues and grooves on both sides, and coating the tongued and grooved sides of said united culls, boards, planks, or laths with a composite mortar for the purpose of producing a fire-proof building material to be used in the erection of composite houses. It further consists of a system of culls, boards, planks, or laths nailed together side to side in such a manner that their edges will form alternate projections and recesses or tongues and grooves on both sides, said projections or tongues having nails driven through them near their edges, and either wholly or partially traversing the recesses or grooves between the projections, and the whole covered with a coating of composite or elastic composite mortar, for the purpose of producing an improved building material for the erection of composite houses, all of which will hereinafter more fully appear.

In the accompanying drawing, A A represent culls, boards, planks, or laths of one width, and C C represent the same kind of material of a lesser width, nailed together side to side, their edges forming elongated recesses and projections or tongues E and grooves F. The culls, boards, planks, or laths may be of the same width and nailed together so as to cause their edges to assume the same appearance as above, by making the edge of one overlap the edge of another at one side, and causing the overlapping to occur alternately at opposite edges of the culls, boards, &c. D are nails, driven through the projections E near their edges, so as to traverse the recesses or grooves F between the projections or tongues E, either wholly or partially, as may be desired. The nails D of course are driven immediately after each cull A has been secured to the cull C, or to another cull, A, as the case may be. A coating, G, of composite mortar, is spread upon the tongued and grooved sides of the united culls, boards, planks, or laths to any desired thickness, care being exercised to completely cover every portion of the wood, and thus prevent it from taking fire.

The object of the nails D, recesses or grooves F, and projections or tongues E is to provide a reliable hold for the composite or elastic composite mortar. No spaces are permitted, and as the wood is much lighter than the mortar the culls, &c., are nailed side to side, as above described, to produce the lightest possible fire-proof building material.

The walls of a building are necessarily heavier than the roof, and in constructing the roof I use the ordinary plastering-laths, unite them as above described, and coat them on both sides with an elastic composite mortar, to prevent the roof from becoming cracked by exposure to the heat and cold. Any desired elastic composite mortar may be used, but I prefer to use the following-described elastic composite mortar, which, however, I do not claim in this application.

The elastic composite mortar above referred to consists of albuminate of calcium mixed with four parts of sand as a first application. This is covered with a mixture, in suitable proportions, of infusorial earth, fire-clay, Portland cement, silicate of soda, sulphate of lime, carbonate of lime, scoria, ground steatite, asbestus, aluminate of soda, ground hard brick, bittern, and suitable fibrous material, or very fine iron wire cut in suitable lengths.

The walls, floors, roof, and partitions of the building are all formed of the composite material above described. The elastic composite mortar is only necessary to be used for the roofing, for the reason that the other portions

of the building, being heavier, are not so readily effected by exposure to the action of heat and cold. Both sides of the wooden portion of the material are covered with the composite mortar, as well in the roof, floors, and partitions as in the walls.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

1. The culls, boards, planks, or laths A C, nailed together side to side to form alternate projections and recesses, or tongues and grooves, on both sides, coated with composite mortar, substantially as and for the purpose set forth.

2. The culls, boards, planks, or laths A C, nailed together side by side to form the projections or tongues E and recesses or grooves F, said projections E having the nails D driven through them near their edges, so as to traverse the recesses or grooves F, either wholly or partially, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN WINGRAVE.

Witnesses:

THEODORE MUNGEN,

NAT. E. OLIPHANT.