(No Model.) 2 Sheets—Sheet 1.

S. C. BURRIS.

CONSTRUCTION OF BUILDINGS.

No. 346,638. Patented Aug. 3, 1886.

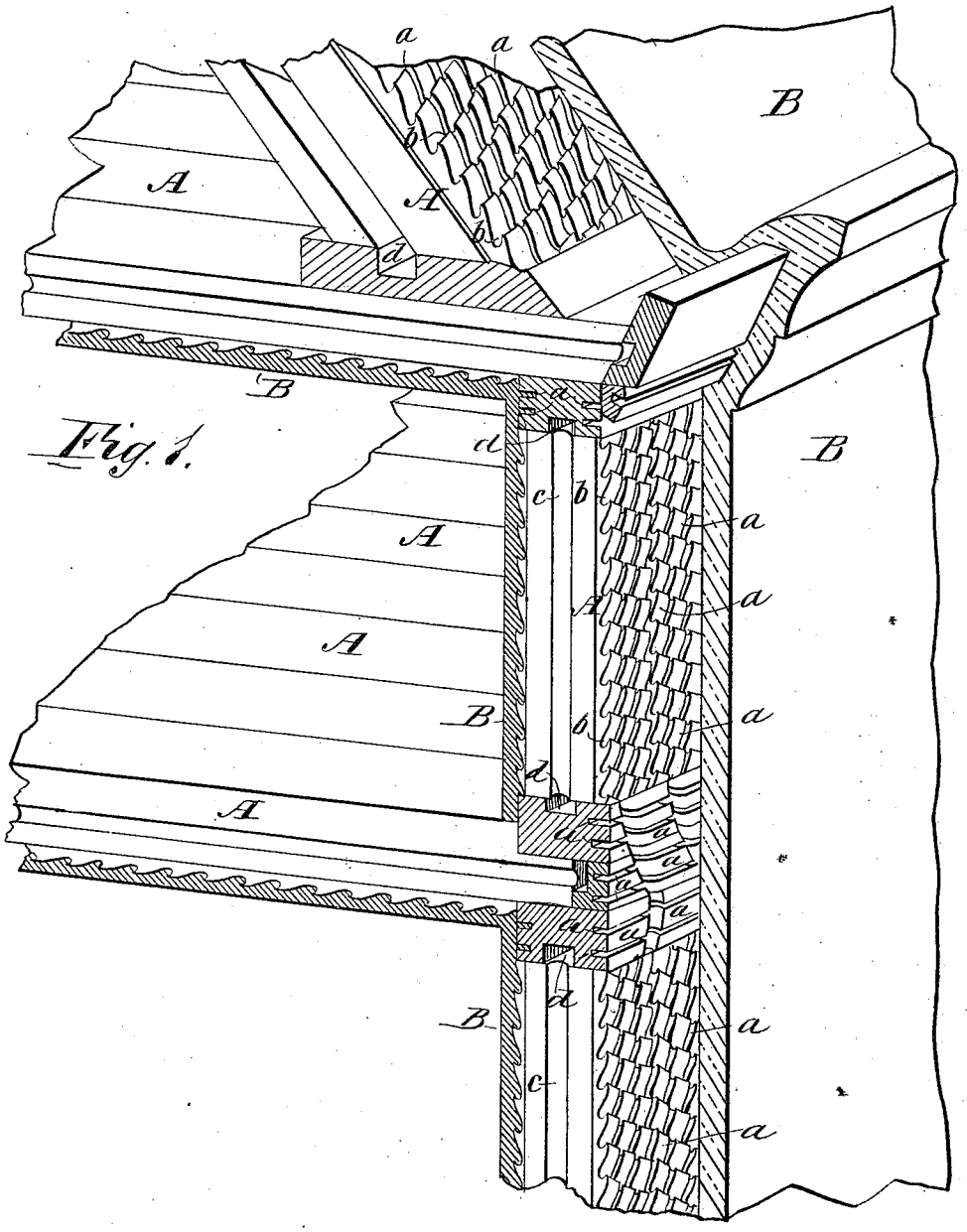

Fig. 1.

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C. Sedgwick

INVENTOR:

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

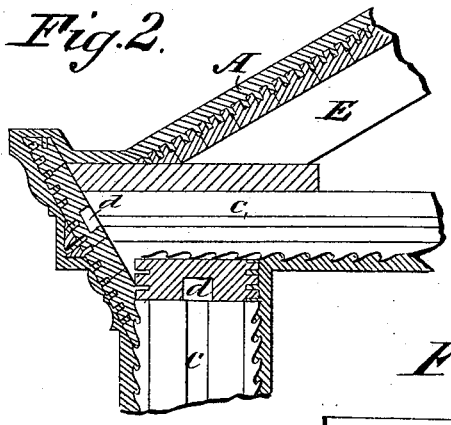


Fig. 3.

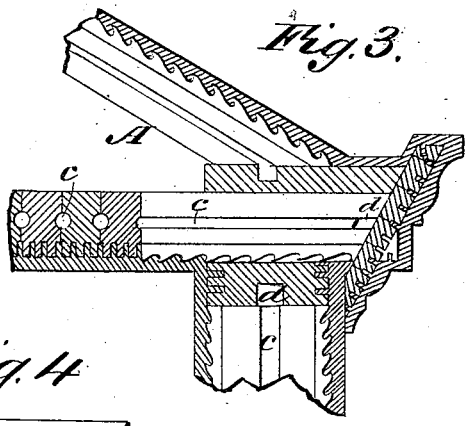


Fig. 4

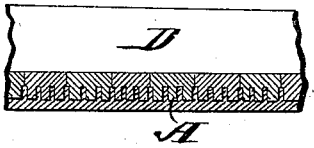


Fig. 5

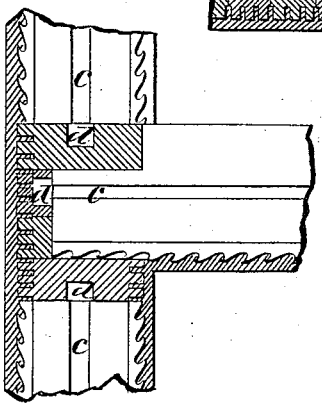


Fig. 6.

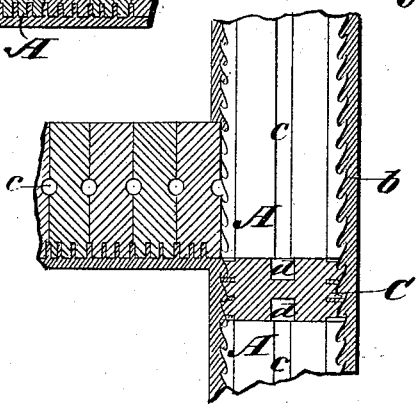
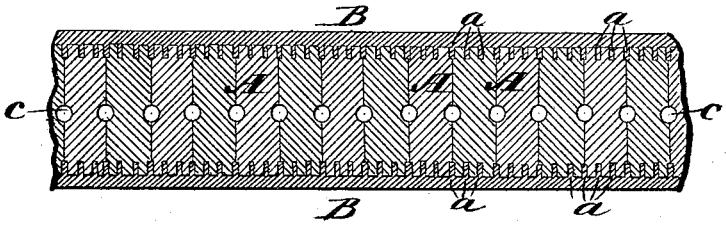


Fig. 7.



WITNESSES:
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UNITED STATES PATENT OFFICE.

SAMUEL CYRUS BURRIS, OF VICTORIA, BRITISH COLUMBIA, CANADA.

CONSTRUCTION OF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 346,638, dated August 3, 1886.

Application filed March 23, 1886. Serial No. 196,294. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL CYRUS BURRIS, of Victoria, in the Province of British Columbia, and Dominion of Canada, have invented a new and useful Improvement in the Construction of Buildings, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is an isometrical view of a part of a building constructed according to my improvement, with angle broken away to show construction at intersections of walls, floors, &c. Fig. 2 is a transverse section of a portion of a slightly modified form of the roof, ceiling, and wall. Fig. 3 is a section showing solid roof with plate and ventilators same as walls, &c. Fig. 4 is a transverse section of a ceiling formed on ordinary joists. Fig. 5 is a side view of floors and joists. Fig. 6 is an end view of the floor and joists. Fig. 7 is a horizontal section of a solid wall made according to my improvement.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to the class of buildings made of wood; and it consists of a wall, ceiling, floor, and roof, built solidly of longitudinally-grooved timbers, or of studs, joists, and rafters with longitudinally-grooved strips or timbers attached thereto, and in curved grooves or coves formed in the face of the grooved timbers or strips for receiving and retaining the mortar or cement with which the timbers are coated.

In carrying out my invention I form the principal parts of the building of timbers A, grooved longitudinally on opposite edges at short intervals, leaving projecting tongues *a*, for receiving the mortar or cement B, with which the inner or outer surface of the wall is coated. To secure a still firmer attachment of the mortar to the wall or ceiling formed of the timbers A, I produce in the timbers, by the aid of suitable machinery, circular undercut grooves or coves *b*, which traverse the longitudinal grooves of the timbers, and form in the tongues *a* overhanging hooks or ledges, into which the mortar is pressed when applied to the timbers.

The expansion and contraction of the wood by the absorption of moisture is counteracted by parallel grooves dividing the edges of timbers into a number of tongues which contract and expand in themselves, thus forming a yielding surface to the wall that will prevent cracking of the plaster.

Along the center of each plain face of each timber A, I form a semicircular groove, *c*, the grooves of the adjacent timbers, when arranged against each other, as shown in the several figures of the drawings, forming ventilating-passages, which extend throughout the entire length of the timbers, and communicate at the ends of the timbers with another groove worked in plate or bond timber, which communicates with the open air at angles or other convenient places.

In Fig. 6 I have shown the vertical timbers A capped by a plate or bond timber, C, in the upper and lower sides of which are formed grooves *d*, which communicate with the ventilating-passages of the timbers on which the plate rests, and of those resting on the plate.

When the timbers A are employed for the construction of a floor, as shown in Figs. 5 and 6, the grooves are made only in the lower side, which forms the ceiling in the room below, the upper edges of the timbers being planed smooth to form the floor. In this case no flooring-boards will be required. Where it is preferred to construct the floor with joists and with flooring-boards, grooved strips or timbers A are attached by their plain sides to the joists D, Fig. 4.

The construction of roofs is substantially the same as that of floors and ceilings, the timbers A being secured together to form the body of the roof, as shown in Fig. 3, with the grooved surface uppermost, the roof being covered with a suitable cement, which is retained in place by the undercut grooves *b* and tongues *a* of the timbers.

When desirable, a roof may be constructed of rafters E, with strips A applied thereto with their grooved surfaces uppermost. The cement forming the outer surface of the roof is then applied to the strips A, and is held by the circular undercut grooves *b* and tongues *a*.

A building constructed according to my improvement is practically fire, weather, and

vermin proof. The incombustible cement, which is applied to the exterior and interior surfaces of the building, prevents the combustion of the wood inclosed thereby. The cement being a non-conductor of heat, and water-proof, excludes cold and moisture, and as there are no spaces for vermin to lodge in the walls my improvement renders a building free from the objections urged against buildings having hollow walls.

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

1. A wall, floor, ceiling, or roof formed of series of timbers A, grooved longitudinally on one or more of their edges, and provided in opposite sides thereof with grooves forming ventilating-passages, substantially as herein shown and described.

2. A timber for constructing wa'ls, floors, ceilings, or roofs, having formed upon one or more of its sides longitudinal and transverse grooves for retaining mortar or cement, and having in one or more of its sides a groove forming with the adjacent timber a ventilating-passage, substantially as herein shown and described.

3. A wall formed of timbers A, having in one or both edges longitudinal grooves and transverse undercut grooves, provided in opposite and adjacent sides with ventilating-grooves *c*, and a coat, B, of cement or mortar applied to the grooved surface of the timbers, substantially as herein shown and described.

4. A wall formed of vertical timbers A, having grooved edges, and provided with ventilating-grooves *c*, and one or more plates, C, grooved in opposite edges, and having in opposite sides ventilating-grooves *d*, substantially as herein shown and described.

SAMUEL CYRUS BURRIS.

Witnesses:
ROBT. J. STEVENS,
W. G. KELLOGG.