No. 761,375. PATENTED MAY 31, 1904.

O. HANSON.

FIRE RESISTING CONSTRUCTION.

APPLICATION FILED NOV. 5, 1903.

NO MODEL.

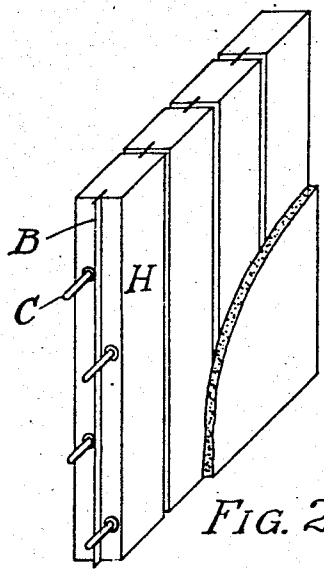


FIG. 2.

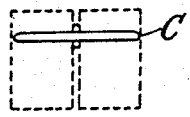


FIG. 3.

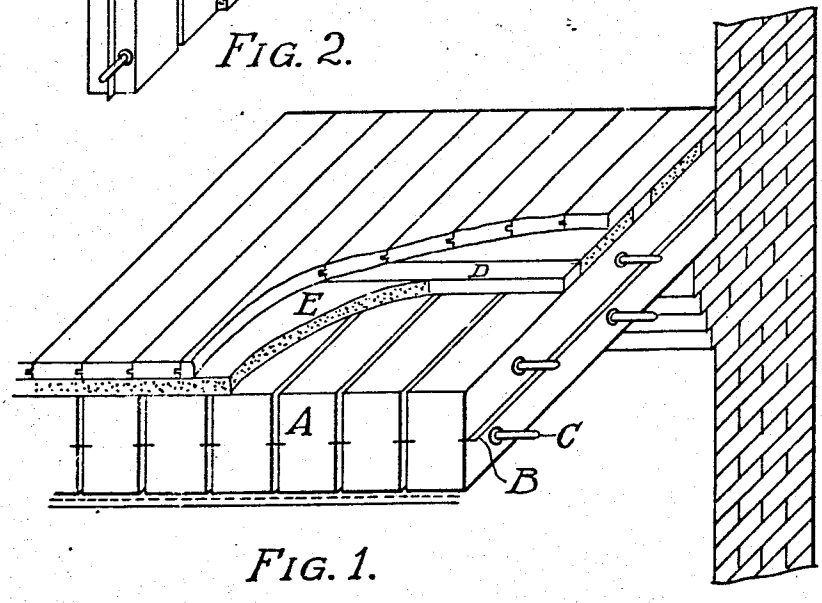


FIG. 1.

WITNESSES:

Max Umbrecht

Geo. Dieu

INVENTOR

Olof Hanson

THE MORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 761,375. Patented May 31, 1904.

UNITED STATES PATENT OFFICE.

OLOF HANSON, OF SEATTLE, WASHINGTON.

FIRE-RESISTING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 761,375, dated May 31, 1904.

Application filed November 5, 1903. Serial No. 179,985. (No model.)

To all whom it may concern:

Be it known that I, OLOF HANSON, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Method of Slow-Burning or Fire-Resisting Construction, of which the following is a specification.

My invention relates to improvements in building construction in wood on the principles generally known as "slow-burning" or "mill" construction; and the objects of my invention are, first, to secure better appearance by permitting of having an unbroken ceiling without sacrificing the fire-resisting qualities of the construction; second, to prevent damage to the structure from the swelling of the timbers when wet; third, to increase the fire-resisting qualities of the construction, which for this reason I choose to call "fire-resisting" construction. I attain these objects by the methods illustrated in the accompanying drawings, in which—

Figure 1 is an isometric view showing the construction of floors. Fig. 2 is an isometric view showing the construction of walls and partitions, and Fig. 3 shows a pin or double-pointed spike for connecting the timbers together.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A shows the floor beams or joists, which rest on walls or girders and are placed near together, but not in contact, and connected by a metal spline B and fastened together by means of pins C. The finished flooring F may be laid directly on the beams A; but to take up irregularities in the beams I place strips D on the beams and fill the space between with cinders or mortar E. The ceiling may be left exposed or plastered, preferably on metal lath.

Fig. 2 shows a wall or partition constructed in the same manner, the upright timbers H being connected by metal splines B and pins C and may be plastered, preferably on metal lath.

The object of using the several parts and their difference from other methods of construction will be further explained below.

In slow-burning or mill construction the usual mode of supporting floors is by using heavy beams or joists about eight by twelve inches placed six or eight feet apart and covered with a floor-lining of three-inch plank grooved and splined with three-fourths inch by one and one-half inch wood splines, and on top of this a finish-floor is laid. If it is desired to finish the ceiling by plastering or otherwise, the finish must follow the outline of the plank and beams. This broken ceiling is unsightly, and hence this method does not find general favor where appearance is a consideration. To overcome this objection and secure a smooth ceiling, I place the beams or joists A near together, connecting them by splines and pins, and omit the floor-lining entirely.

To groove and spline the larger beams in the same manner as the plank would be difficult, expensive, and sometimes impracticable. In place of the wood spline I substitute a thin spline B of metal made, preferably, of galvanized hoop-iron about one and one-half inches wide, and instead of a three-fourths-inch groove I use a thin groove, which may be cut at the building by means of a small circular saw operated by a motor or other suitable power.

In slow-burning construction it is the practice to drive the planks close together. In case of fire or flooding a floor the swelling of the plank causes them to push against the walls and may overthrow them, as has actually happened. To prevent this danger from swelling, I place the beams not in close contact, but a little apart, about a quarter of an inch, more or less, so that they have room to swell, and the thin metal spline will cut into the wood without materially interfering with the swelling, as would be the case with a wood spline.

The beams A are fastened together by means of pins or double-pointed spikes C, inserted in holes bored in the beams at corresponding intervals. These pins or spikes may have a head or washer on the center to keep the beams at the proper distance apart, and in case of swelling of the timber this head or washer will sink into the wood without interfering with the swelling. The same object—

viz., to keep the beams at the proper distance apart—may also be attained in other ways besides that above mentioned, the essential thing being to space the beams properly, so as to allow them to swell or shrink without damage to the building.

The observations in regard to spacing floor-timbers also apply to partitions and walls, although as the danger of swelling there is less it is not so important that they be spaced apart.

I am aware that solid floors have been constructed heretofore by placing joists close together and spiking them together one after the other. I therefore do not make a broad claim on solid floors; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A floor constructed of rectangular wood beams of greater depth than width, resting on walls or girders, and placed not more than one inch apart but not in close contact, so as to leave a space between the beams for the purpose specified.

2. A floor constructed of rectangular wood beams of greater depth than width, resting on walls or girders, and placed not more than one inch apart but not in close contact, and connected by splines preferably of metal, for the purpose specified.

3. A floor constructed of rectangular wood beams of greater depth than width, resting on walls or girders, and placed not more than one inch apart but not in close contact, and secured together by pins or heavy spikes, substantially as shown and for the purpose specified.

4. A floor constructed of rectangular wood beams resting on walls or girders, and placed not more than one inch apart but not in close contact, connected by splines preferably of metal, and secured together by pins or heavy spikes, substantially as shown and for the purpose specified.

5. A partition or wall constructed of upright rectangular timbers, placed not more than one inch apart but not in close contact, connected by splines preferably of metal, and secured together by pins or heavy spikes, substantially as shown and for the purpose specified.

OLOF HANSON.

Witnesses:
MAX UMBRECHT,
GEO. DRIVER.