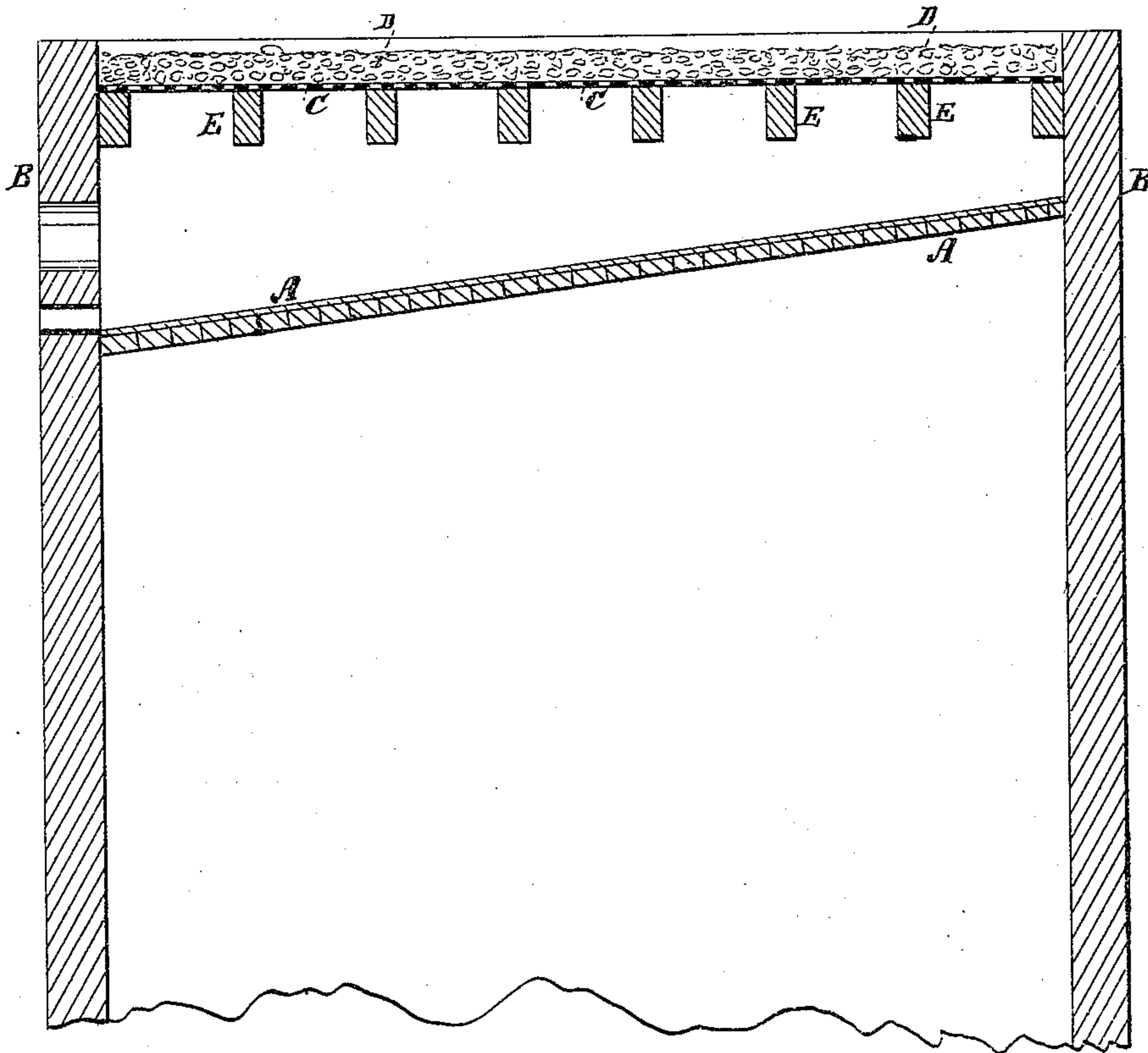


F. J. HOYT.
Fire-Proof Roofs.

No. 152,996.

Patented July 14, 1874.



WITNESSES:

A. Benneken
Sidgwick

INVENTOR:

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BY *[Signature]*

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UNITED STATES PATENT OFFICE.

FREDERIC J. HOYT, OF BATAVIA, NEW YORK.

IMPROVEMENT IN FIRE-PROOF ROOFS.

Specification forming part of Letters Patent No. **152,996**, dated July 14, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, FREDERIC J. HOYT, of Batavia, in the county of Genesee and State of New York, have invented a new and useful Improvement in Fire and Water-Proof Roofs, of which the following is a specification:

The object of my invention is to render the roofs of buildings in blocks, or where built close to one another, not only water-proof but fire-proof, so that, in case of the burning of a building in a block, and the wind sweeping the flame over the roof of the adjoining building, the same will be so protected that the blaze or heat therefrom shall not ignite any portion thereof.

This I accomplish by building the ordinary flat roof on an incline from front to rear, covering the same with a water-proof composition, thus forming a water-proof roof, extending the front wall a foot or more, as desired, above this roof.

I also extend the side walls and rear wall to a level with the front wall, leaving spaces in the side walls, within six inches or so of the top, for fitting in joists or scantlings from two to three feet apart, as may be necessary, on which, from front to rear, I fasten strips of wood from one to two inches wide, and half an inch thick, fastening them on edgewise, and from one-fourth to one-half an inch apart, or boards an inch thick and four inches wide, beveled toward each edge, placed one-fourth inch apart, and cover all this wood-work with a water-proof composition, to prevent decay from the wet; or, for more expensive building, I may cover said joists with a net-work of galvanized wire, or perforated galvanized iron, fastening it on in sections. On the top of this I place from two to three inches of loose gravel, screened so that none will pass through the openings into the lower roof, thus forming a fire-proof roof.

The water passing through this upper roof falls on the lower roof, and runs off by conductors arranged through the wall and into the lower roof in the ordinary manner, which also serve as air-holes to ventilate the space between the two roofs.

I do not wish to confine myself to any par-

ticular material or compositions of materials in building either the lower or upper roof, as the quality of the building may make it advisable to use any one of the above materials in preference to the other; but what I consider to be my invention is, the combination of two roofs, forming a double roof, the one water and the other fire proof, the roofs being separated in the above manner, making the upper roof positively fire-proof, by taking away from the gravel all mixtures of inflammable material, while the lower or water-proof roof is rendered cheaper and not liable to get out of repair by being so covered by the upper roof as to prevent all exposure to the sun or weight of snow.

The upper roof being perfectly level, and protected on all sides by six inches or so of wall, the gravel will not shift from place to place.

I also propose to apply the upper or fire-proof roof to buildings already built with the ordinary flat roof covered with tar and gravel or tin, by running up the walls to a level with the front wall, or building a frame-work, and making the outside fire-proof, by protecting it with galvanized iron, filled in with gravel or other material, as above described.

The drawing is a sectional elevation of a double fire and water proof roof as I propose to build it.

A represents the lower slanting roof of water-proof material; B, the walls extended above to support the fire-proof roof, which consists of the perforated sheet metal, or woven-wire sheet and gravel stratum D, supported on rafters E, having their support in the extensions B of the walls, said walls being made fire-proof.

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

The combination, for a fire and water proof roof, of an upper roof, constructed only with reference to resisting fire, and a lower roof of water-proof construction, protected by the upper roof, substantially as specified.

FREDERIC J. HOYT.

Witnesses:

A. N. COWDIN,
L. F. McLEAN.