

UNITED STATES PATENT OFFICE.

EDWARD R. PERCY, OF LAWRENCE, KANSAS.

IMPROVEMENT IN FIRE-PROOF AND WATER-PROOF ROOFINGS.

Specification forming part of Letters Patent No. **137,566**, dated April 8, 1873; application filed January 22, 1873.

To all whom it may concern:

Be it known that I, EDWARD R. PERCY, of Lawrence, Douglas county, Kansas, have invented an Improved Process for the Purpose of Making Roofs of Buildings both Water-Proof and Fire-Proof, of which the following is a specification:

Upon the sheathing of the roof is put down, without the use of nails or their equivalents to secure it in position, a water-proof covering made of felt, tarpaulin, tin, copper, or other like suitable material coated over with roofing-cement to make it water-proof, and upon this water-proof covering thus prepared is laid a coating of concrete made of non-combustible materials.

I am aware that water-proof roofing of various kinds is used, and also that concrete has been employed; but in all prevailing processes either nails or their equivalents have been used for the purpose of fastening the water-proof covering to the sheathing, or else cleats have been nailed down to secure the said covering or the concrete in position. In all cases where water-proof covering has been used holes have been necessarily made through it by the nails or their equivalents, which have been driven, and where cleats are used holes are made through them to secure them to the sheathing. In consequence of the contraction and expan-

sion of the wood composing the sheathing, the nails or their equivalents which are driven through the said covering into it are loosened and the holes enlarged, which two incidents cause leakage.

In my method the water-proof covering is held in its place by the weight of the superincumbent concrete, so that no nails or their equivalents are necessary, and therefore no holes are made in said covering, and, as the water-proof covering is not attached to the sheathing by adhesion, nor by nails or their equivalents, the usual contraction and expansion of the wood beneath will not cause any tearing of the said covering.

The concrete not only holds the water-proof covering in position, but also secures the object of making the roof fire-proof, so far as non-combustible materials can procure that very desirable result.

I claim as my invention—

The method of combining water-proof and fire-proof roofing for buildings without the use of cleats or nails or their equivalents for fastening the water-proof covering to the sheathing, substantially as described.

EDWARD R. PERCY.

Witnesses:

W. C. BROOKS,
W. P. PUGH.