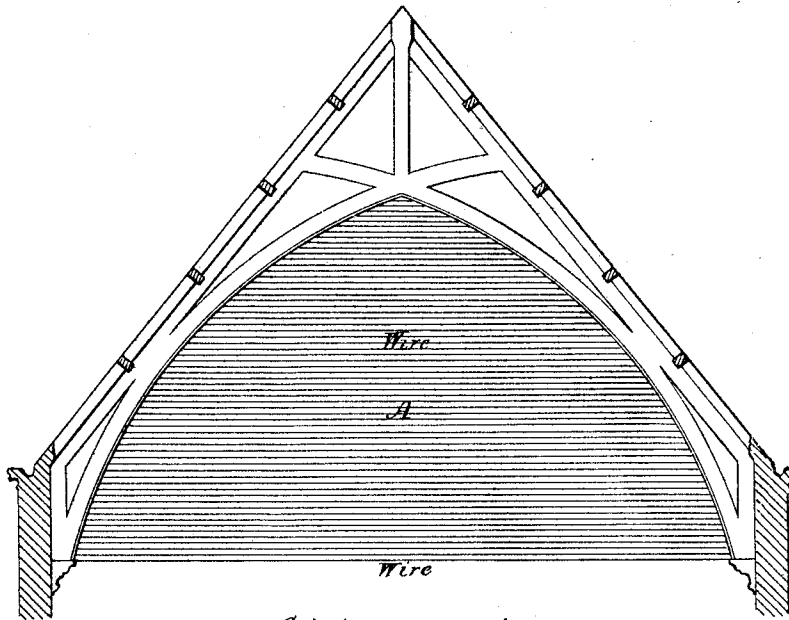


J. P. TAYLOR.

Means for Preventing Reverberations in Public
Halls.

No. 147,294.

Patented Feb. 10, 1874.



*Section of Gothic Roof
Showing manner of Stretching Wire.*

Witnesses.

*Emell Dick.
Wm. E. Chaffee.*

Inventor.

*Mr. P. Taylor
by atty. H. H. H.*

UNITED STATES PATENT OFFICE.

JOSEPH P. TAYLOR, OF NEW BRIGHTON, PENNSYLVANIA.

IMPROVEMENT IN MEANS FOR PREVENTING REVERBERATIONS IN PUBLIC HALLS.

Specification forming part of Letters Patent No. **147,294**, dated February 10, 1874; application filed December 15, 1873.

To all whom it may concern:

Be it known that I, JOSEPH P. TAYLOR, of New Brighton, Beaver county, Pennsylvania, have invented a certain new and useful Improvement in Preventing Reverberations in Churches, Public Halls, and other Structures, of which the following is a specification:

My improvement in preventing reverberations in structures of the kind referred to, and generally in any building, hall, or room defective in this regard, consists in interposing between the speaker's stand, or the point from which the sound emanates, and the reverberant or sound-reflecting surface, a barrier of fine wires, constituting in some sort a screen, or a "break-sound," as it may be termed, which, while allowing the sound to pass or sift through, will break up the sound-waves to such an extent as to prevent their impulses from acting on the reflecting-surface of the roof, walls, or other part, in such manner as to produce confusing reverberations. It is, of course, not possible to state positively that the prevention of the reverberation is due to the breaking up of sound-waves; this is my theory of the principle of action of the screen, inasmuch as I have supposed the wires act in the same way to break up the sound-waves as piles driven at intervals apart in the water act to break up the waves there; but whatever be the rationale of the process, the result attained is marked and very satisfactory.

The principle of the invention lies, as before said, in the interposition of a screen or barrier of fine wires between the point from which the sound emanates and the reflecting or reverberant surface.

The arrangement of the wires that compose the "break-sound" or barrier may be varied to a great extent, this being governed by the shape of the reflecting-surface and its location with respect to the speaker's stand. So, too, the wires may be arranged horizontally or vertically, or at right angles with one another, and in a plane either vertical or at an angle to the vertical.

In the accompanying drawing, I have represented one arrangement which will illustrate the principle of my invention.

The figure represents a transverse vertical section of a Gothic roof. From one side to the

other of the open arch of the roof are stretched wires A, extending in a vertical plane from the top of the arch to the corbels. The speaker's stand may be supposed to be this side of the wires, the reflecting-surface on the other side of or beyond the wires. The arrangement shown is substantially such as I have applied with complete success in the church of St. Paul, Brunswick, Maine. In that building the echo or reverberation was exceptionally troublesome. The church consists of nave, transept, and chancel, and, in order to destroy the reverberation, I caused wires to be stretched, as represented in the drawing, across the open arches, at the intersection of the transept and nave, and also across a portion of each of the several arches of the nave, beginning at top. In this way the reverberation, before so annoying, was quite destroyed. The wire may be placed at varying distances apart. I have found that placing them at intervals from two to three inches will give good results; but this interval can be much increased without departure from my invention.

The wires should be, preferably, annealed, and should be of fine gauze, so that it may not be noticeable from the floor of the building, and I would say further, in this regard, that I have found by far the best and most perfect results are produced by the employment of this fine wire.

More than one screen can be employed, if desired.

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

The mode herein described of preventing or destroying reverberations in churches, halls, and other structures, the same consisting in interposing between the speaker's stand, or the point from which the sound emanates, and the reflecting or reverberant surface, a barrier or "break-sound" of fine wires, substantially in the manner set forth.

In testimony whereof I have hereunto signed my name this 13th day of December, A. D. 1873.

JOSEPH P. TAYLOR.

Witnesses:

S. C. DUNHAM,
CHAS. M. JOSLYN.