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SOUND PROOF PARTITIONS

By P. R. HEYL

The question of sound-proofing a wall or partition may arise either in the original construction of the wall or in an attempt to improve an existing wall which is not satisfactory.

It is possible to construct a partition wall which shall be reasonably sound proof. Specifications for such construction may be found in Bureau of Standards Scientific Paper No. 526, on Transmission and Absorption of Sound by Some Building Materials. This paper is to be had of the Superintendent of Documents, Government Printing Office, Washington, D. C. at the price of 15 cents. The results given in this paper show that the poorest panel tested was capable of reducing a sound loud enough to be painful to the loudness of the average speaking voice, while the best panel reduced such a sound to complete inaudibility.

In the construction of a wall with sound proof character in mind it is to be noted that much of the sound may be transmitted through the studding. Filling in the spaces between the studs with asbestos or similar material will have but little effect on the transmission of sound.

In case it is desired to improve an existing wall which is not satisfactory, good results have been attained by means of an auxiliary partition composed of a one inch layer of hair felt between boards of celotex or of sheet rock. Both these board materials are frequently used in building construction. The first layer of board should be loosely nailed to the wall by as few nails as possible, the nails passing through drilled holes a trifle larger than the nails, the heads of the nails doing the holding. The nails should not be driven tightly home.

On this is applied a one inch layer of hair felt, by means of as few nails as possible, provided with large washers such as are used in applying tar paper. The hair felt must not be compressed by the washers, and the nails should pass, as before, loosely through drilled holes.

The outer layer of board is loosely nailed in the same way as the first board. In this way it is not likely that sound vibrations will pass from one board to the other by means of the nails, but must pass through the hair felt if at all.

Of the materials mentioned, hair felt and celotex are not fire proof but are much less readily combustible than lumber and most fibrous materials, while sheet rock is incombustible.

It is to be remembered that the transmission of sound from one room to another does not always take place entirely through the intervening wall. Vibrations may be transmitted through the floor, especially in the case of a piano standing on the bare floor. Rugs or pads will do much to prevent sound being transmitted in this way.

Closed doors often allow much sound to pass through an otherwise satisfactory wall. Where a door is not in constant use heavy hangings may be placed over it, and weather stripping applied around it.

Department of Commerce,
Washington, D.C.