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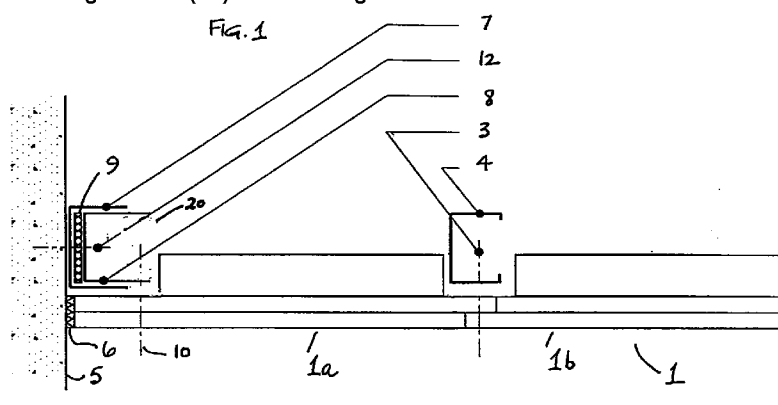
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(54) **System for supporting partitions and particularly partitioning boards intended to provide acoustic insulation**

(57) A partitioning system comprises at least one partition member (1a,1b), a location channel (7) which may be fixed to a wall (5), floor or ceiling, an insert channel (8) which has a mechanical different impedance to that of the location channel (7) and is preferably of different material, and fastening means (10) for securing

the partition member (1a,1b) to the insert channel (8). The partition member (1a,1b) is mechanically decoupled from the location channel (7) so that the arrangement provides better acoustic insulation.



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Description

This invention relates to partitioning and particularly to the support of partitioning boards intended to provide acoustic insulation.

It has been standard practice to improve the acoustic performance of an existing wall by mounting a plasterboard partition on studwork in front of the existing wall and placing an acoustically absorbent quilt in the gap between the existing wall and the plasterboard partition

A known system for providing an acoustic lining for walls employs partitioning boards each of which comprises two face-to-face plasterboards which overlap at a margin to facilitate the assembly of boards so that they abut overlappingly at their margins, adjacent overlapping boards being fixed together by means of screws which extend through the overlapping margins to appropriately located studs. It is also known to secure an assembly of plasterboards constituting a partition made in this way to a floor, walls and a ceiling, if desired, by means of a channel composed of channel members secured to the wall, floor or ceiling so as to define the location of the perimeter of the plasterboard assembly, each plasterboard being secured to the channel by any convenient means. For example, fixing screws may extend through the partition through locations adjacent a supporting channel member, the screws engaging studs or nuts which fit within or are located within the channel.

The object of the present invention is to improve the acoustic insulation properties of a partition wall or acoustic lining constituted by a board or system or boards by an improved, vibrationally decoupled support system for the perimeter of the board, that is to say where the board is supported relative to an adjacent building element such as a floor, wall or ceiling. The invention may be employed to support a lining, such as a plasterboard lining, in front of an existing wall but might in other forms be used to support a partition wall of which the main purpose is to provide an acoustic separation of two regions.

As will be understood from the description which follows by way of example only, the invention is based on the use of a location channel which may be secured to an adjacent building element such as a floor, wall or ceiling, an insert channel which fits within the location channel and is preferably made of substantially different material so that the location channel and the insert channel have different characteristic impedances to mechanical wave motion. Further, the plasterboard or other partitioning member is to be secured to the insert channel so that it is substantially decoupled from the location channel.

In the accompanying drawings:

Figure 1 illustrate schematically a plan section of a partitioning lining system at a wall connection.

Figure 2 illustrates schematically an elevation section showing the partitioning system at a floor connection.

As briefly mentioned previously, the drawings illustrate by way of example a partitioning system which is specially adapted, according to the invention, to provide increased acoustic insulation by means of mechanical decoupling between the supporting structure, a wall, floor or ceiling, and the partitioning boards which constitute the partition or lining.

Various forms of partition may be employed in and with the present invention. One convenient form is illustrated in Figure 1 by the partition 1, which consists of overlapping boards 1a and 1b each comprising a laminate of layers of plasterboard. At a common margin wherein the boards 1a and 1b overlap, they may be fixed together by means of a screw, the position of which is illustrated by a chain line 3, extending through the boards to a stud 4.

The partition 1 may be disposed with a gap between itself and an adjacent wall 5 but typically such a gap is filled by means of a strip 6 of acoustically isolating tape disposed on the wall or the abutting end face of the partitioning board.

It is customary to support such a partition wall by means of a plurality of location channel members each of which is fixed to a wall, ceiling or floor so as to provide a datum for the positioning of the partition wall and a means of supporting the partitioning wall, typically by means of screws extending through the partitioning and studs which receive the screws and are disposed within the perimeter location channel.

The present invention differs from such a system in that although there is a perimeter location channel 7 which may be secured to the adjacent wall 5 by means of some suitable fastener or fasteners, such a perimeter channel is not directly connected to the partition 1 that is disposed adjacent to it. Instead, the perimeter location channel alone is fixed to the supporting wall or floor and/or ceiling (as the case may be). An insert channel 8 is disposed within the perimeter location channel 7. Very preferably, the insert channel 8 is not fixed to the location channel but fits within it so that the location channel 7 grips the insert channel. Preferably the two channels have substantially different mechanical impedances, which may be provided by the use of substantially different materials. By way of example, the insert channel 8 may be made of steel whereas the location channel 7 may be made of a rigid or semi-rigid synthetic plastic material such as polyvinyl chloride.

In the illustrated version, the channels 7 and 8 are both a rectangular U-section and the bases 7a and 8a of the sections may be separated by isolation tape 9.

The plasterboard and other partitioning wall member 1 may be secured to the insert channel 8 by means of a suitable fastener such as a screw, shown by the chain line 10. The insert channel may be slotted or

apertured to accommodate the passage of the screw 10. Such a fastening means may be provided at each of a plurality of selected locations.

The perimeter location channel 7 may be fixed to the wall by means of a fastener shown schematically at 12. 5

Owing to the difference in mechanical impedances of the location channel and the insert channel, there is only very inefficient mechanical transfer between the two channels and therefore the acoustic isolation properties of the partitioning wall are much improved. 10

Figure 2 illustrates the same system as shown in Figure 1 but wherein the location channel 7 is fixed to a floor 13, in this example the partition is disposed immediately in front of a wall 14. 15

Claims

1. A partitioning system comprising at least one partition member (1a,1b), a location channel (7), an insert channel (8) adapted to fit within and extend out of the location channel, and means (10) for securing the partition member to the insert channel, the location channel and the insert channel having substantially different impedances to vibrational waves. 20 25
2. A system according to claim 1 wherein the location channel and the insert channel are composed of substantially different materials. 30
3. A system according to claim 2 wherein the said means for securing comprises at least one a screw (10) passing through the partition member and engaging the insert channel (8). 35
4. A partitioning system comprising at least one partitioning board member (1), a location channel (7) which is fixed to a building element (5 or 13) such as a wall, floor or ceiling, an insert channel (8) which fits within the location channel and is mechanically decoupled relative thereto, the partitioning board member (1) being secured to the insert channel near the periphery of the board member, and the partitioning member being mechanically decoupled from the said element and the said location channel. 40 45
5. A system according to claim 4 wherein the location channel and the insert channel have substantially different impedances to acoustic waves. 50

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