June 19, 1934. E. WEBER 1,963,341

SOUNDPROOF ROOM CONSTRUCTION

Filed March 19, 1932

Fig. 1

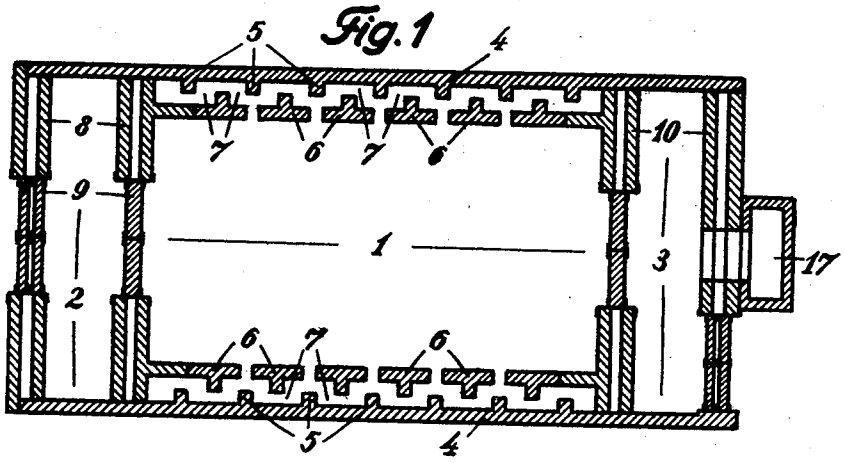


Fig. 2

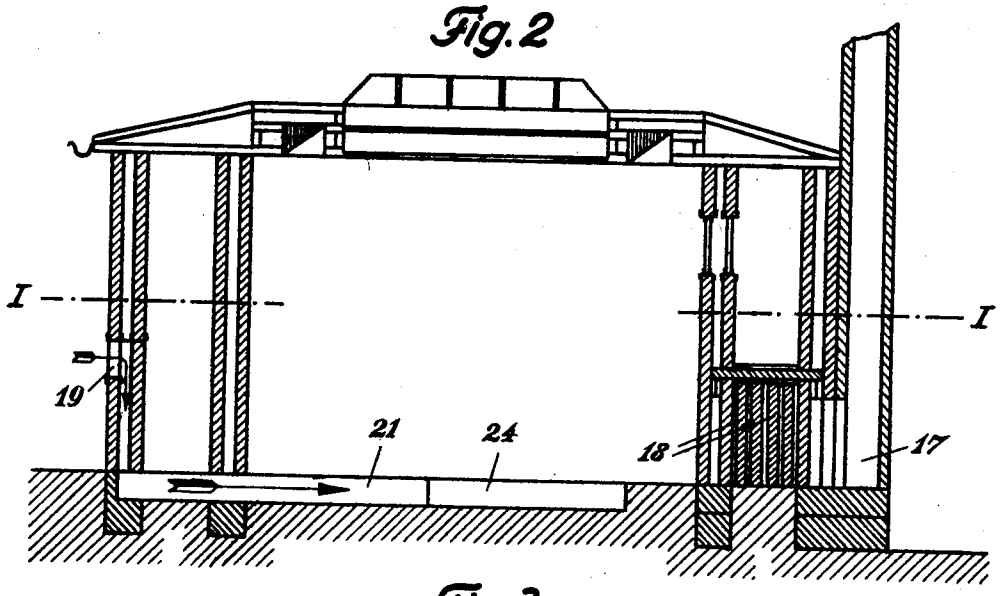
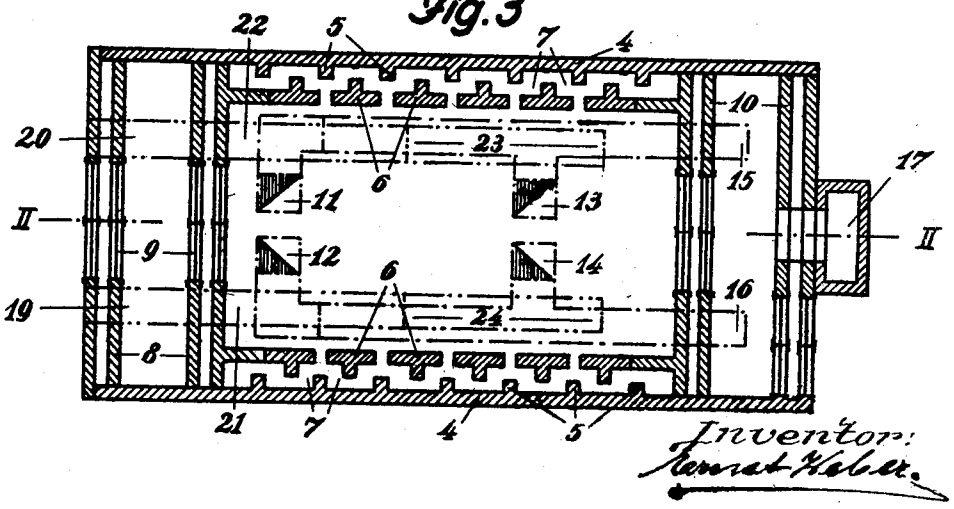


Fig. 3



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SOUNDPROOF ROOM CONSTRUCTION

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2 Claims. (Cl. 20—4)

The present invention relates to a sound-proof room-construction, by means of which the transmission of a very loud sound, which occurs inside the room in question is nearly entirely prevented from reaching the outside. According to this construction the outer-walls, respectively the partitions which may be necessary for the room to be made sound-proof, consist of two walls spaced from one another and made up of sound-insulating plates. The inner wall of the hollow side walls to which the two partitions at both ends of the room are disposed at right angles have parallel slots which are so arranged that in spite of these openings this inner wall forms a proper wall surface. The insides of the two walls forming said hollow side walls are provided with ribs which are alternatively arranged to one another on these two sides, thus forming a labyrinth in the hollow wall whereby the ribs on the inside of the outer wall of the hollow walls are arranged just opposite of the slots of the inner wall of the hollow walls.

The drawing represents by way of example the application of the above room-construction to a sound-proof testing-shop for explosion-motors.

Fig. 1 shows the testing-shop building in a horizontal section according to the line I—I of Fig. 2,

Fig. 2 is a vertical section, according to line II—II of Fig. 3 and

Fig. 3 is a further horizontal section according to the line I—I of Fig. 2.

In the illustrated example the testing-shop building is divided into three rooms 1, 2 and 3. The room 1 is provided for the motors to be tested. 2 is a room arranged in front of room 1, serving for insulating the front-side of room 1, 3 is a room equally insulated from room 1, and serving as control-stand for controlling the motors to be tested from outside of room 1, and one is therefore not disturbed by the noises taking place within room 1. The two side-walls of the motor-room 1 consist of two series of plates each of which have been designed to be very little sound-conducting, light in weight and very strong. The outer-wall 4 consists of plates as specified above, provided with vertically arranged ribs 5. The inner-wall 6 also consists of plates as described above, but they are T-shaped and arranged in a certain distance from the wall 4 and from each other, thus forming in spite of these openings between these plates a wall surface. The stays of the T-shaped plates are arranged between two ribs of the outer wall of the hollow side walls forming thereby a labyrinth in the hollow side walls and these ribs are disposed just opposite the openings of the plates of the inner wall of the hollow side walls. By this arrangement the sound is held back by the surface of the inner wall of the hollow side walls and the sound which is partly conducted through this inner wall is damped in the labyrinth in the hollow side walls and reflected by the ribs on the inner side of the outer wall passing through the openings of the inner wall of the hollow side walls back into the interior of the room. The walls 8 forming the store-room 2 as well as the doors 9 arranged in these walls consist also of plates as described above, thereby preventing the noises of room 1 from reaching the store-room 2 and the outside. The control-room 3 comprising the walls 10 is based on the same principle. Underneath the room 3 a motor with a ventilator, not shown on the drawing, is arranged for the purpose of evacuating the gases collected in room 1 and conducting the same to the outside.

For this purpose, outlets 11, 12, 13 and 14 are located in room 1 on both sides and at the ceiling, as well as channels 15 and 16 which are connected with the ventilator room 3. The gases sucked off by the ventilator are conducted into the chimney 17, in front of which a number of vertical plates 18 are placed for insulating the sound.

For supplying the motor-room 1 with fresh air the two air channels 19 and 20 are provided to which the two air channels 21 and 22 (Fig. 2, 3) are connected; the fresh air passes these channels and enters room 1 through openings 23 and 24 of the channels 21, 22.

I claim:

1. Sound-proof room construction comprising an outer wall with parallel ribs on the inner side, an inner wall in spaced position to the former with ribs facing the ribs of the outer wall but arranged between two ribs each of the outer wall, adapted to form a labyrinth in between the two walls, said inner wall having parallel slots and the ribs of the outer wall being arranged opposite the slots of said inner wall, said outer and inner wall being built up of sound insulating plates.

2. Sound-proof room construction comprising two parallel hollow side walls each of which consisting of a ribbed outer and a ribbed and slotted inner wall, a store room and a control room, the latter arranged at both ends of said two parallel hollow side walls, adapted to form together with the latter the sound-proof room, said store and control room formed of hollow parallel walls and at right angles to the parallel side walls of the

sound proof room and made up of sound insulating plates, said hollow side walls consisting of an outer wall with parallel ribs on the inner side, an inner wall in spaced position to the former with ribs facing the ribs of the outer wall but arranged between two ribs each of the outer wall, adapted to form a labyrinth in between the two walls, said inner wall having parallel slots and the ribs of the outer wall being arranged opposite the slots of said inner wall, said outer and inner wall being built up of sound insulating plates.

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