Nov. 27, 1928. 1,692,855

E. N. MURPHY

SOUNDPROOFED SHOCK ABSORBED LAUNDRY FLOOR

Filed Sept. 22, 1924 5 Sheets-Sheet 1

Fig. 1

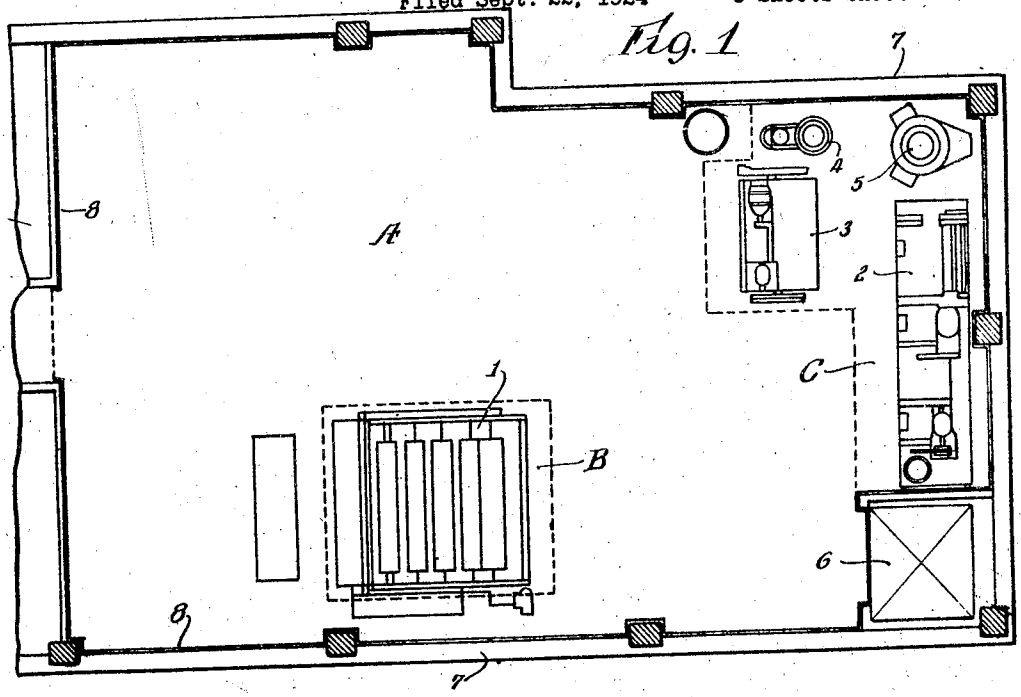
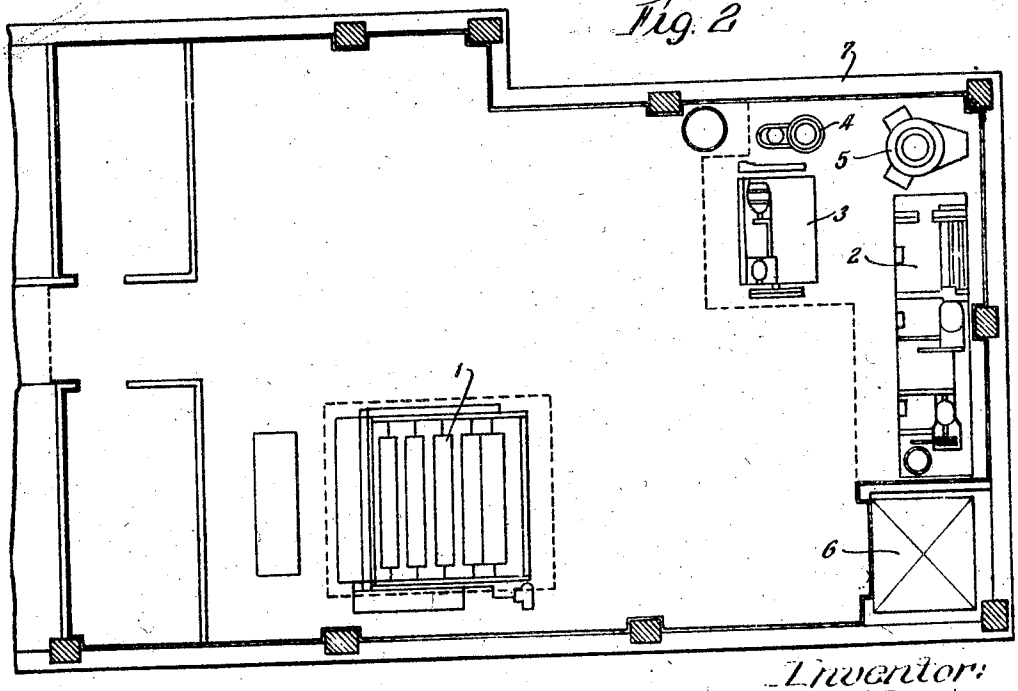


Fig. 2



Witness:

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SOUNDPROOFED SHOCK ABSORBED LAUNDRY FLOOR

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Fig. 3

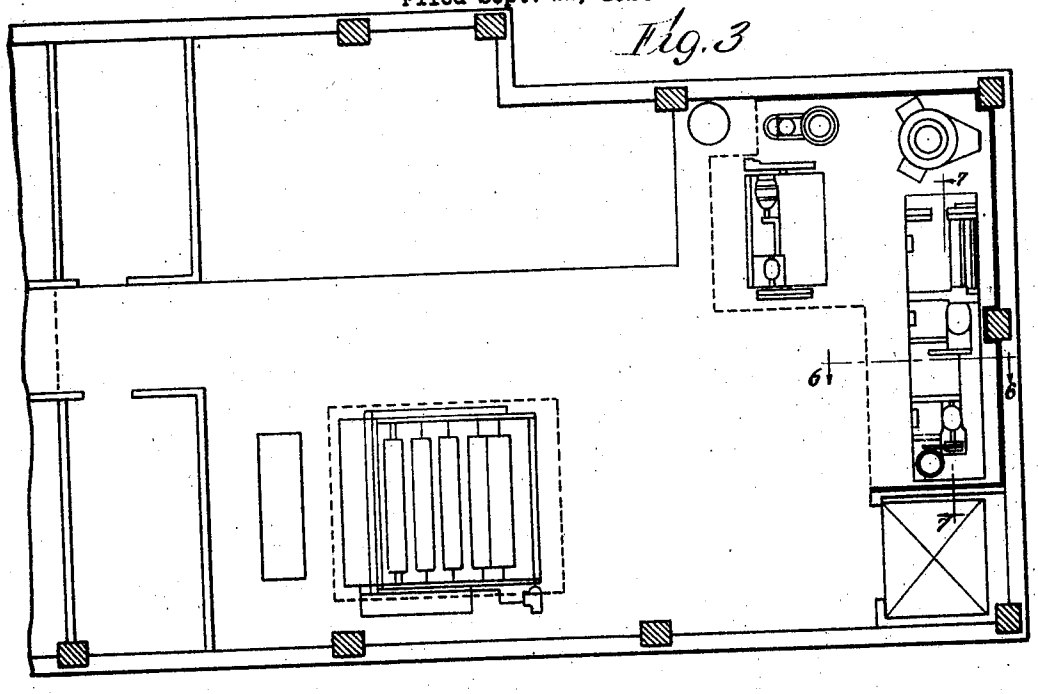
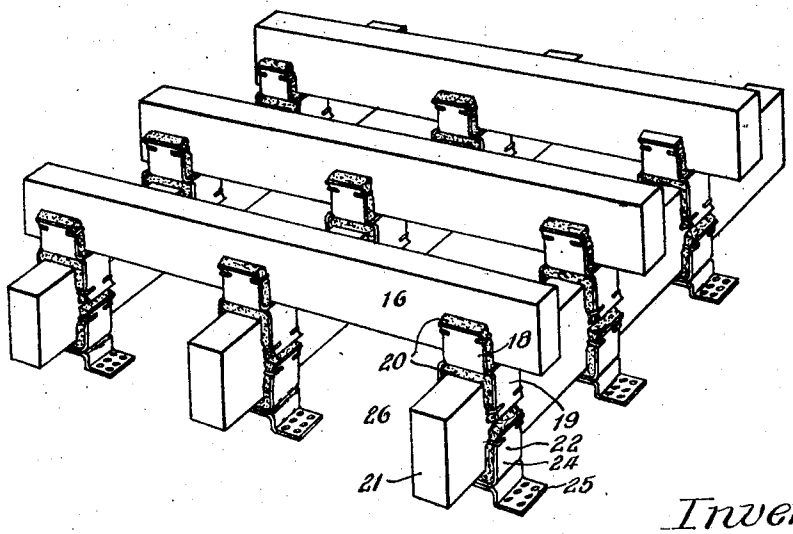


Fig. 8



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SOUNDPROOFED SHOCK ABSORBED LAUNDRY FLOOR

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Fig. 4

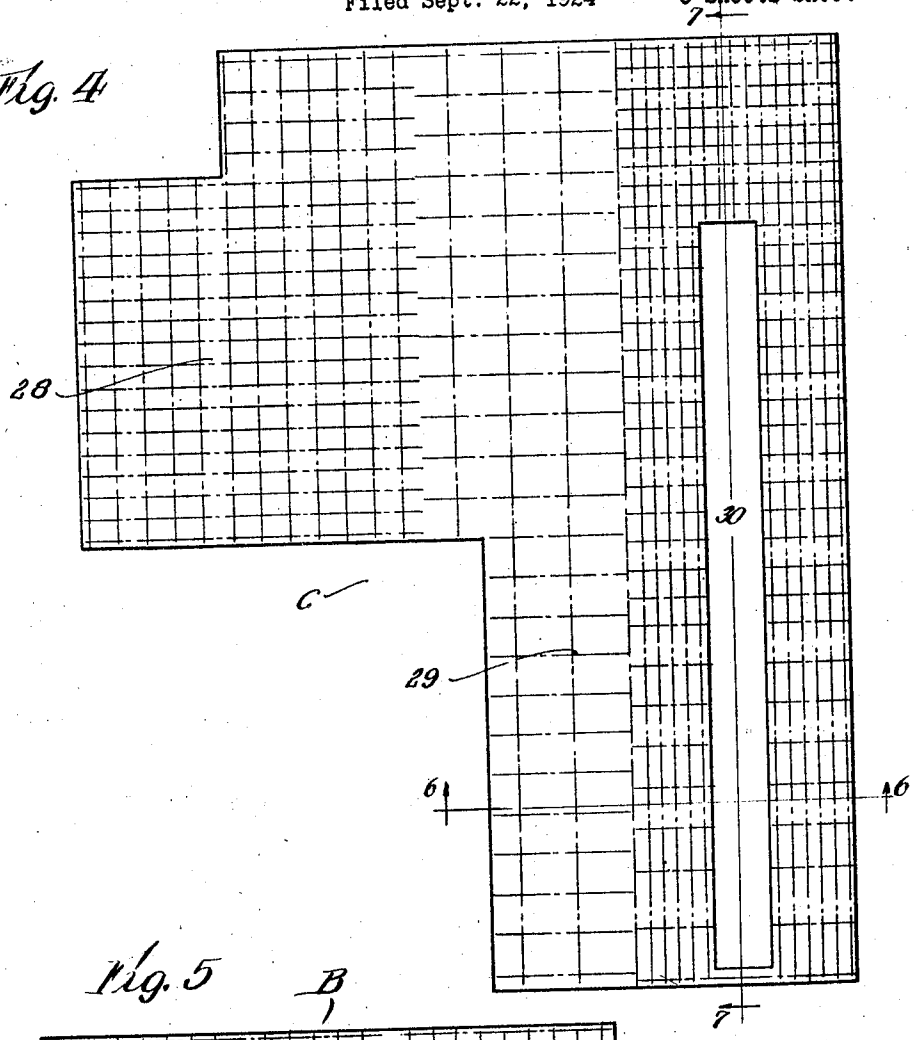
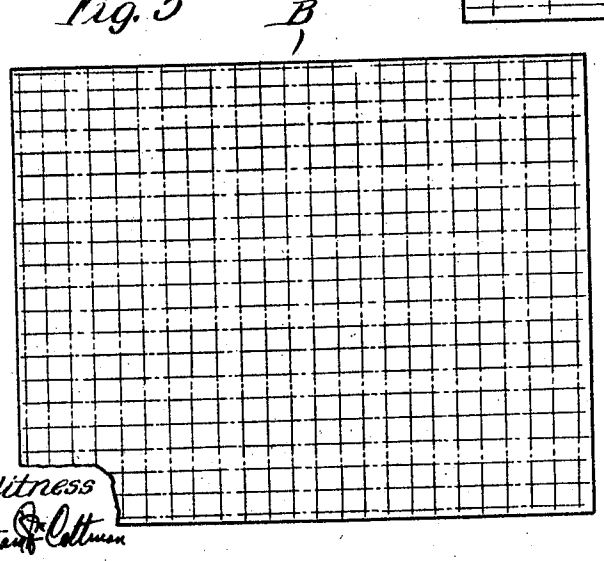


Fig. 5



Witness
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SOUNDPROOFED SHOCK ABSORBED LAUNDRY FLOOR

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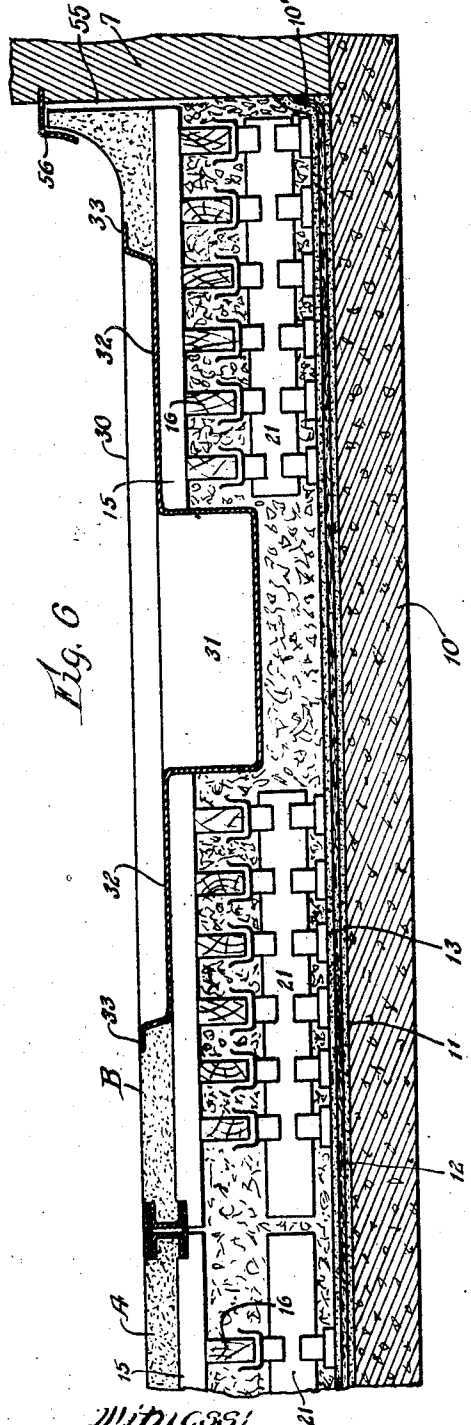


Fig. 6

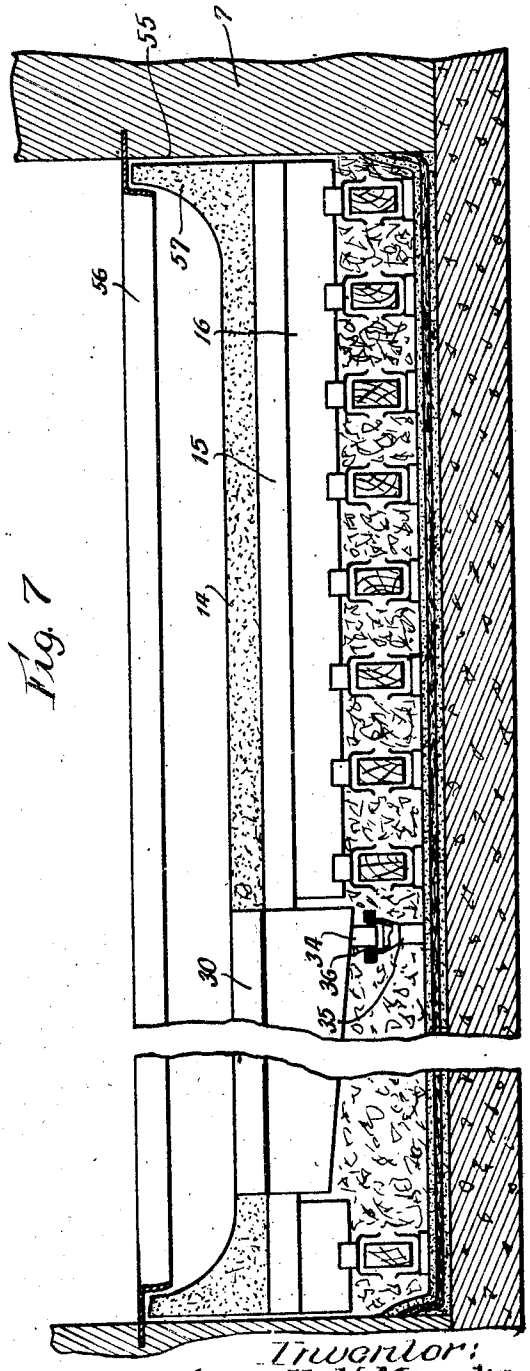


Fig. 7

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SOUNDPROOFED SHOCK ABSORBED LAUNDRY FLOOR

Filed Sept. 22, 1924 5 Sheets-Sheet 5

Fig. 9

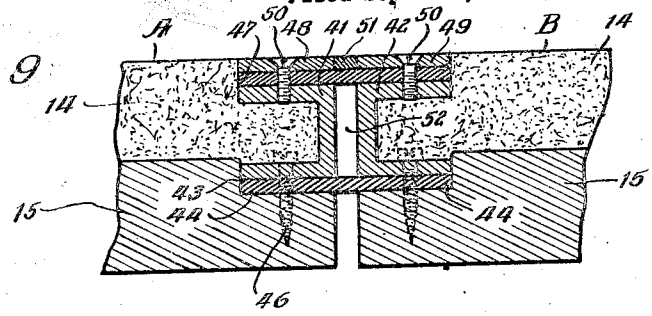


Fig. 10

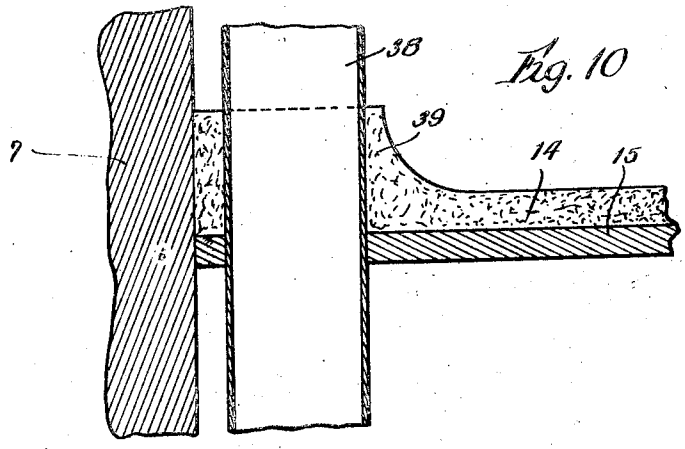
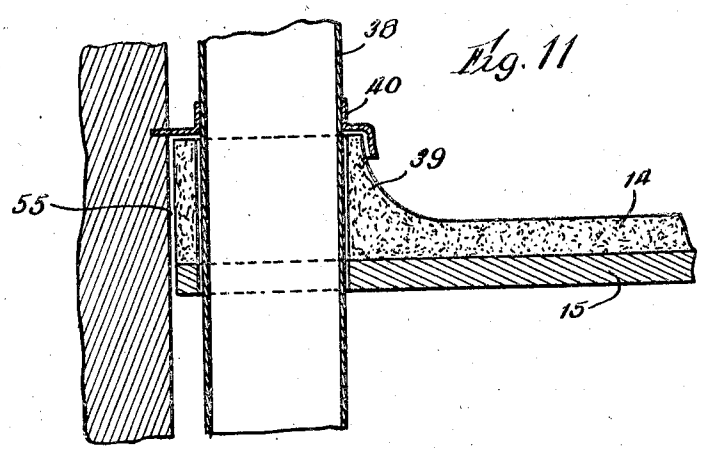


Fig. 11



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UNITED STATES PATENT OFFICE.

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SOUNDPROOFED SHOCK-ABSORBED LAUNDRY FLOOR.

Application filed September 22, 1924. Serial No. 738,984.

The present invention relates to sound-proof floor construction and to an improved method of sound-insulating floors, by dividing the floor supporting space into a plurality of separated and disconnected areas or platforms, each of which may be carried upon a vibration deadening supporting structure. The invention also relates to an improved method of supporting sound-vibration generating mediums of different types or capacities whereby the vibration absorbing or cushioning capacity of these areas or platforms will be in proportion to the vibration capacity of the mediums carried thereby.

The manner in which my invention may find expression may be varied in many ways, but its contemplated application is to floors for supporting machinery and the like. As an example of such application, the present embodiment is directed to a sound-proof, shock-absorbed laundry floor used particularly in hotel buildings, and other buildings requiring similar sound-proofing of certain parts.

Cushioning supports have heretofore been used in the construction of sound-proof floors for absorbing or deadening vibration to prevent its transmission from one room to another. Under ordinary conditions, the provision of such cushioning supports has satisfactorily cared for such sound as is ordinarily transmitted from one room to another, but where there is excessive noise or vibration such as would be experienced where machinery is used, these cushioning supports do not prevent leakage of the noise or vibration. That is to say, they are capable of functioning within certain limits, and do it nicely, but, when excessive floor loads which tend to jar or rock the entire floor structure are imposed, additional provision must be made to absorb and prevent transmission of the vibration beyond the particular room.

I have found that the difficulties, as existed heretofore, in overcoming the above, reside in the fact that no attempt has been made to check the vibration at the point where it is generated, and consequently, it is allowed to travel through the entire floor. Furthermore, I have found that noise and vibration will travel along the floor to the walls, if no break in the floor is provided to check this travel. Moreover, a sound-proof floor of this type may be made to function more efficiently by predetermining the load for a particular area and providing cushioning supports in proportionate numbers, to check the sound or vibration at its inception and not allow it to travel along the floor until it is absorbed as heretofore, this being further accomplished by cutting off all physical contact between the particular area and the surrounding portion of the floor.

According to the present invention, the floor is divided into areas according to the use to which each will be put, that is to say, in laundry floors space is reversed for the tumblers, extractors, ironers and drying rooms, it being contemplated, however, that such sound-vibration developing devices as portable trucks will be rolled about the floor between these spaces which must also be taken into consideration in insulating this part of the floor. In carrying out this construction, it is highly desirable to have the floor surface of material of such characteristics that it will be water-proof and also elastic enough to resist the resultant fracturing tendencies, due to the operating machines or loads, and such as would occur if the floor were made of inflexible, rigid material (concrete or the like). In the preferred embodiment of my invention, the floor is constructed water-proof by the employment of a layer of material upon the sound or vibration deadening structure, which material inherently resists transmission of sound or vibration, due to its flexibility or elasticity, and which does not absorb moisture, being very reliable, in this respect, particularly because it is not subject to fracturing or cracking which would allow the water to run therethrough to the structure below.

The present invention relates more particularly to the treatment of the supporting structure below this surface floor whereby loads of different magnitudes may be carried without permitting sound-vibration to be transmitted farther than the supporting structure itself. Proper sound insulation is, in a general way, dependent upon two things: insulation of the solids of the structure, and insulation of the dead air spaces. The latter is for the purpose of preventing the so-called "drum effect" which is caused by the sound waves traveling through the confined air spaces to the structure below. With reference to the insulation of the solids, the present invention is based upon the further discovery

that the provision of a non-physical connection between the lower floor and upper floor, together with the use of a cellular filling between the floors (the latter not being essential to the main accomplishment of this invention) the travel of sound-vibration between the floors will be efficiently checked—particularly when the cushioning supports are spaced at intervals according to the loads supported. It is within the scope of this invention to space the cushioning supports carrying a particular load so that they will react as units in absorbing sound-vibration. Each cushioning support may comprise a plurality of layers of cattle hair, felt or some other similar material, for receiving cross strips, which cross strips are disconnected between units to prevent continued transmission of sound-vibration beyond the unit they comprise.

An important feature of the present invention resides in the provision of a novel waterproof, non-shock transmitting joint employed between units (platforms), the advantage of which need not be stressed in this description, because its value will be readily apparent to those skilled in the art.

In order to apprise those skilled in the art, how to construct and practice my invention, I shall now described an embodiment thereof in connection with the accompanying drawings.

In the drawings:

Figure 1 is a diagrammatic plan view of a sound-proof floor embodying my invention, the floor in this illustration being totally disconnected from the side walls of the room;

Fig. 2 is also a diagrammatic plan view of a similar room embodying my invention, but wherein certain areas or rooms are partitioned off from the rest of the floor;

Fig. 3 is a similar view of the same room, but wherein the floor is not entirely disconnected from the side walls of the room, being disconnected adjacent sound-vibration generating areas only;

Fig. 4 is a diagrammatic lay-out of the washing machine platform, illustrating the manner of spacing the sound cushioning supports to carry the different loads upon this platform;

Fig. 5 is a similar diagrammatic lay-out of the washing platform which also illustrates the spacing of the sound cushioning supports. It will be noted in this view and also in Fig. 4 that the lines representing the cushioning supports, which are arranged in rows, are spaced at different intervals according to the type of machinery placed thereon;

Fig. 6 is an enlarged detail cross-sectional view of the floor taken on line 6—6 which intersects the portion of the washing machine platform illustrated in Fig. 3;

Fig. 7 is a similar view through this platform, but taken on line 7—7 of Fig. 3. (The machinery carried upon this platform being omitted in this view and also Fig. 6);

Fig. 8 is a perspective view of the sound insulating structure which absorbs the sound vibrations and tends to check further transmission of the same. This structure is interposed between the upper finishing floor and the lower rough floor;

Fig. 9 is an enlarged detail view of the water-proof, shock-absorbing joint disposed between the disconnected areas of the floor disclosed herein;

Fig. 10 is a vertical cross sectional view of a chute passing through the floor, as shown in Fig. 3; and,

Fig. 11 is a similar view of the same chute, but being disconnected from the floor in this instance, this embodiment being preferably in the floor construction illustrated either in Fig. 1 or in Fig. 2.

It will be understood at the outset that my invention is capable of embodiment in floors other than disclosed herein, particularly of different types, and therefore, I do not intend to limit myself to a laundry floor for use in such institutions as hotels, hospitals, and the like.

In order to more clearly understand the underlying principles of the present invention, I wish to point out that the contemplated scope of this invention includes all floors adapted to carry sound-vibration generating mediums, the presence of which on the particular floor will cause annoyance or disturbance to adjoining rooms, and consequently, will necessitate providing supports which will check the transmission of the sound vibrations and render the floor sound-deadening in nature. In furtherance of this feature, it is not essential to this invention that the entire floor be disconnected from the walls of the room, nor any particular portion of the floor be disconnected from the surrounding sections. The essence of the invention resides mainly in the discovery that in order to completely sound insulate a sound-vibration generating medium from the adjoining room, provision, in the form of a disconnected platform supported in a manner to care from the particular load, should be made.

The floor illustrated in Fig. 1 comprises the areas A, B, and C, the latter two areas constituting in effect, machinery supporting platforms, upon which machines of different types may be placed. Platform B, however, is intended to carry in the present disclosure an ironer 1 which in some cases may weigh as much as twelve tons. Platform C is adapted to carry washing machines 2, tumbler 3 and extractors 4 and 5. The space 6 is an elevator shaft, which for the purposes of the present description is not considered a part of the room. The areas and machinery above mentioned may, if so desired, be laid

out differently to satisfy the needs of a particular installation. This floor is totally disconnected from the side walls 7 of the room. This is indicated by the line 8 about the sides of the room. Thus it will be noted that at no point is there physical connection between the floor and the walls 7. Consequently, any sound-vibration in the floor will not be transmitted to these walls.

The washing machinery platform C is diagrammatically laid out in Fig. 4, and is illustrated in cross section in Figs. 6 and 7. Discussing first in detail the general construction of the floor, it will be noted that a lower rough floor 10, preferably of concrete, is provided for carrying the sound-deadening floor structure and the finishing floor. This lower floor 10 is preferably laid at a lower level for this room than for surrounding rooms in the same building. This is not necessary, but is merely preferable. This depressed floor 10 is first mopped with a layer of asphalt as indicated at 11, and upon the latter a layer of water-proof felt 12 is placed, which further receives a second layer of asphalt 13, the entire arrangement being such that the same is extended upwardly a short distance about the walls 7. as indicated at 10'. The layers of asphalt 11 and 13 and the felt 12 prevent any moisture from coming in contact with the cement floor 10. Upper floor 14 preferably comprises a layer of mastic material which may be asphalt or material of like characteristics. In this connection, it will be remembered that the machines are mounted upon the upper floor 14, and the vibrations developed by these machines will be directly imparted to this floor. It is for this reason that it is preferable to provide the floor 14 elastic and capable of absorbing a certain portion of the vibrations imparted thereto. If this floor 14 were made of hard. rigid material, it would in no time be fractured and cracked and require replacement. Any cracks in the floor 14 would tend to lessen its water-proof quality by allowing the water to leak through the cracks to the structure below. The molecular adhesion of asphalt is appreciably high, particularly when it is slightly warm, and in view of this the floor tends to resist vibration without fracturing. A layer of matched and dressed planks 15 serves to carry the asphalt floor 14. A plurality of spaced stringers 16 are adapted to carry the flooring 15. The stringers 16 constitute a part of the sound-deadening structure which will now be described.

By referring to Fig. 8, it will be noted that these cushioning supports comprise two opposed U-shaped members 18 and 19. These members are secured in back to back relation and the arm portions thereof are disposed at right angles to each other. Arranged within the U-shaped members 18 and 19 are pads 20 which afford cushion supports for the structural sustaining members as shown. As illustrated in this figure, such members comprise the stringers 16 and the cross strips 21, which are preferably laid transversely to the stringers 16. The cross strip 21 is secured between the padded portion 19 of the cushioning support and the padded portion 22 of another and differently constituted cushioning device 24, the latter being provided with a supporting means 25, which is in turn secured to the floor 10. In the particular illustration, the supporting means 25 of the cushioning device 24 comprises apertured feet which are sunk into the layer of asphalt 13 first applied to the lower floor 10. It will thus be seen that the cushioning supports 26 comprising the padded portions 18, 19 and 22 may be spaced as units along the stringers or cross strips 16 and 21 at any desired intervals, whereby the cross strips 16 and 21 may be brought closer together to form a more compact unit for supporting any particular area of the floor. The ability of any particular area to absorb or deaden sound-vibration will be dependent, of course, to a certain extent upon the number of cushioning supports 26 employed. I wish to call attention to the fact that this particular structure of cushioning support 26 has been broadly claimed in co-pending application Serial No. 373,181, filed April 12, 1920, and in practice these padded portions 18 and 19 are commonly known as the Stevens two-way chairs.

Referring more particularly now to the use of this structure for absorbing sound-vibration generated by different mediums or loads carried by a floor so that sound-vibration will be intercepted at its inception, it will be noted in Figs. 4 and 5, that these cushioning supports are spaced at different intervals and in Fig. 4 this spacing is even different in the same platform. I have indicated the cushioning supports 26 in these figures by broken parallel cross lines, mainly because they tend to simplify the showing and render the same more clear. I have shown the area C in Fig. 4 to be of irregular formation. This area has been laid out to suit the needs of the particular installation, which required placing the washing machines upon a single disconnected platform. Inasmuch as these washing machines are of different weight and sound-vibration generating capacities, it has been preferable to space the sound cushioning supports under each machine according to the magnitude of the sound-vibration it generated. The tumbler 3 is mounted upon this area at the upper left hand corner, as indicated at 28, which corner has been supported by cushioning supports 26 spaced apart approximately 8" in one direction and 6½" in the opposite direction. Ad-

jacent the corner 28, the flooring, as indicated at 29, is supported by cushioning supports 26 which have been spaced approximately 12″ apart in each direction. It is to be understood that these dimensions have been adopted for a particular installation and do not in any way enter into the invention except in so far as they make clear the underlying principle of spacing the cushioning support at different intervals to accommodate sound-vibration generating mediums of different types. Parallel to the section 29 of the area C, the flooring is laid out particularly to accommodate a series of washing machines 2 and the extractor 5. Here again, the flooring is supported by cushioning supports 26 spaced according to the machines supported. The distances between the cushioning supports 26 in a longitudinal direction vary from 6″ to 17″ and are spaced approximately 4½″ in the opposite direction.

For the sake of convenience, a drain pan 30 has been embedded in the asphalt flooring 14 for receiving the drain water from the washing machines 2. As illustrated in detail in Figs 6 and 7 this drain pan comprises a central depression 31, horizontal sides 32, and vertical flanges 33, which are countersunk in the asphalt floor 14 in water-tight relation. Thus the drain pan 30 is securely locked in position. As illustrated in Fig. 7, a drain pipe 34 connects with pan 30, the former draining into a sewer main 35. A coupling 36 furnishes a non-physical connection between these pipes so that transmission of sound-vibration at this point is prevented. The advantage of the drain pan 30 is that the water may be quickly and conveniently carried away by being allowed to drain into this pan, and consequently, there is no possibility of water leaking below the asphalt surface 14.

In Fig. 5, the ironer platform is supported upon cushioning supports 26 which are spaced closer together than in the washing machine platform, because in this particular instance the ironer is a larger machine and capable of producing greater vibration. The cushioning supports 26 have been indicated as being spaced uniformly each way, but this is not essential to the proper sound insulation of the ironer platform.

In Figs. 10 and 11, I have illustrated the manner of passing chutes or the like through the floor; in one case, totally disconnecting the chute from physical contact with the floor, and in the other case allowing it to contact with the floor in instances where there is little possibility of sound-vibration being carried thereto through the floor. In Fig. 10, the chute 38 passes through an opening in the asphalt floor 14 and wooden floor 15, the asphalt being formed into a reenforcing flange 39 about this chute. In Fig. 11, the floor 14 is provided with the reenforcing flange 39, but its opening is slightly larger than the outside diameter of the chute to prevent the latter from contacting with the sides of the flange 39. A flashing 40 preferably of zinc surrounds the pipe at the opening of the flange 39 and extends downwardly over the flange, but not in physical contact therewith, to prevent the water or foreign matter from working through the opening to the space below the floor. This is merely illustrative of how various chutes, posts, or other objects, may pass through my improved sound insulated floor without destroying its sound insulating qualities, by being arranged in non-physical contact with the floor.

It is highly undesirable as before mentioned to allow the water to leak through the floor at the point where the areas B and C are disconnected from the remaining portions of the floor which according to the drawings comprise the area A. To positively prevent transmission of sound-vibration from areas B or C to the area A, it is contemplated that the former two areas remain out of physical contact with the area A. Not only is the asphalt floor 14 and wooden floor 15 disconnected about the periphery of areas B and C from the area A, but the sound insulating structures carrying areas B and C are likewise disconnected from the sound insulating structure supporting area A. The latter is accomplished by disconnecting the cross strips 16 and 21 of one area from the cross strips 16 and 21 of the adjoining area. This is illustrated in Fig. 6. In view of the separation of the areas from each other and the desirability of preventing water from leaking between spaces to the floor below, my invention contemplates the provision of a novel form of water-proof joint which also possesses the characteristic of preventing the vibrations from being transmitted between areas. This novel form of joint designated generally as 40 is illustrated in detail in Fig. 9. As there shown, the asphalt floor 14 of area B is spaced from the asphalt floor 14 of area A. The same is true of the wooden floors 15 of these areas. At the line of separation, a pair of channel irons 41 and 42 are embedded in the respective asphalt floors 14 and are arranged with their backs facing each other in spaced relation. By being embedded in the asphalt these channel irons 41 and 42 are securely retained in position. Adjacent this point wooden floors 15 are cut away as indicated at 43 to receive the lower legs of the channel irons 41 and 42, these legs, however, being adapted to rest upon a strip of vibration absorbing material 44, such as rubber or the like. To prevent a possible lateral shifting of the members 41 and 42, I have provided screws 46 which pass downwardly through the lower legs of these channel irons

and into the wooden floor 15. A similar strip of sound insulating material 47 is laid across the upper legs of the channel irons 41 and 42. Metallic bars 48 and 49 are then placed upon this strip 47 and are brought flush with the level of the asphalt floor 14 by means of the screws 50 which also serve to hold these bars in place. The bars 48 and 49 are physically disconnected from each other, being spaced apart by a sound insulating strip 51, which may be of rubber or any other material waterproof in nature. Thus it will be apparent that this novel form of joint 40 not only prevents transmission of sound-vibrations between areas, but is also water-proof. The space 52 between the areas at the point of the joint 40 is sufficient to allow maximum vibration of either area without endangering the non-physical contact relation which has been provided between the same. That is to say, vibrations of neither area will in no case allow these areas to contact at the point of the joint 40. Furthermore, the strip 51 tends to resist any such extreme vibration and is flexible enough to yield to these vibrations without destroying its water-proof relation.

In the foregoing description it has been mentioned that the floor has been disconnected (out of physical contact) from the side wall 7 of the room. This is accomplished by leaving a space designated generally 55, as illustrated in Figs. 1, 2, 3, 6, 7 and 11. The asphalt flooring 14 is terminated short of the side wall 7 and the wooden flooring 15 is also cut so as to provide this space 55 between the flooring and the side wall 7. By virtue of this arrangement, it will be noted that any tendency of the floor to transmit its vibrations to the side wall 7 will be frustrated by the provision of the space 55. It is immaterial so far as the essence of this invention is concerned how this non-physical contact between the flooring and the side wall is obtained. Spaces 55 merely illustrate one manner of accomplishing this feature, but it will be apparent to those skilled in the art that different arrangements may be used as advantageously employed under different requirements of installation. A flashing 56, suitably fastened to the side wall 7 overhangs the integral upstanding projection 57 formed about the asphalt floor 14. The integral projection 57 tends to prevent water from coming in contact with the side wall 7 and the flashing 56 tends to prevent the water from leaking through the space 55 to the sound deadening structure below. Furthermore, the flashing will prevent any foreign matter from possibly working its way into the space 55 and provide a physical contact between the flooring and the side wall 7.

The feature of disconnecting the flooring from the side wall 7 may be provided about the entire floor as hereinbefore mentioned and as illustrated in Figs. 1 and 2, and again it may be provided merely for such platforms as designated C, which lie adjacent the walls 7. Furthermore, it may be provided for such chutes 38, or other similar objects, so that these will not constitute the direct or physical connection between floors. The essence of the present invention lies in the discovery that transmission of sound-vibration may be effectively overcome by not allowing the sound-vibration to transmit or carry itself any appreciable distance from the spot where it is generated. Consequently, the totally disconnected platforms B and C are suggested. I appreciate that other arrangements may be had for accomplishing this feature and therefore intend to include the same in this invention. As I have before mentioned, my invention resides in the discovery that this sound-vibration may be totally overcome by such an arrangement and that similar arrangements are possible and therefore should be included as coming within the scope of this invention. It is possible to employ a form of water-proof, non-vibration transmitting joint different than shown, and consequently I intend to claim broadly any form of joint between disconnected floor areas which accomplishes the same advantages as the joint illustrated herein. It is to be further remembered that the discovery that sound-vibration may be totally overcome by separating the floor into differently disconnected areas is entirely independent of the particular form of sound-deadening structure which supports these areas and which has been shown in detail in Fig. 8. I prefer, however, this form because it permits spacing of the cross strips 16 and 20 at different intervals according to the magnitude of the sound-vibration developed at any particular point on the floor.

Without further elaboration, the foregoing will so fully explain the gist of my invention, that others may, by applying current knowledge, readily adapt the same for use under varying conditions of service, without eliminating certain features which may properly be said to constitute the essential items of novelty involved, which items are intended to be defined and secured to me by the following claims.

I claim:

1. A sound-proof floor construction including an upper finishing floor divided into distinct, disconnected areas which are out of vibration transmitting contact with the walls of the room and which are supported on individual vibration deadening structures out of vibration transmitting contact with each other and the walls of the room.

2. A sound-proof floor construction including an upper finishing floor divided into distinct disconnected areas, which are out of vibration transmitting contact with each other and the walls of the room, and which are supported on individual vibration deaden-

ing structures also out of vibration transmitting contact with the walls of the room.

3. A sound-proof floor construction including an upper finishing floor divided into distinct disconnected areas, which are out of vibration transmitting contact with each other and the walls of the room, which are supported on individual vibration deadening structures out of vibration transmitting contact with each other and the walls of the room.

4. A sound-proof floor construction including an upper floor and a lower floor, said upper floor being divided into areas which are out of vibration transmitting contact with each other, and cushioning supports bearing on said lower floor and providing a non-physical contact between said upper floor and said lower floor.

5. A sound-proof floor construction including an upper floor and a lower floor, said upper floor being divided into areas which are out of vibration transmitting contact with each other, and cushioning supports bearing on said lower floor and providing a non-physical contact between said upper floor and said lower floor, said cushioning supports being spaced apart under each area according to the loads supported by said areas.

6. A sound-proof floor construction including an upper floor supported upon a lower floor and arranged in separate areas to support sound-vibration generating machines whereby the vibration in the area below one machine is not transmitted to the portion of the floor below another machine, and a vibration deadening structure for supporting said upper floor upon said lower floor, said vibration deadening structure including cushioning means for preventing vibration transmission therethrough from one area to another of said upper floor.

7. A sound-proof floor construction including an upper floor supported upon a lower floor and arranged to support sound-vibration generating machines upon different portions thereof whereby the vibration in the portion below one machine is not transmitted to the portion of the floor below another machine, and a vibration deadening structure for supporting said upper floor upon said lower floor, said vibration deadening structure supporting the different portions separately in sound insulated relation and having cushioning means for preventing sound transmission therethrough to said lower floor.

8. A sound-proof floor construction including an upper floor supported upon a lower floor and arranged to support sound-vibration generating mediums upon different portions thereof whereby the vibration in the portion below one medium is not transmitted to the portion of the floor below another medium, and a vibration deadening structure for supporting said upper floor upon said lower floor, said structure being provided in sectional parts for separately supporting said portions of the upper floor.

9. A sound-proof floor construction comprising an upper floor supported upon a lower floor and arranged to support sound vibration generating machines, whereby the vibration in the floor below one machine is not transmitted to the portion of the floor below another machine, a vibration deadening structure for supporting said upper floor upon said lower floor, said vibration deadening structure being arranged to support said upper floor in divided areas, which are out of vibration transmitting contact with each other, and cushioning means constituting a non-vibration transmitting medium adapted for use as a joint between the divided areas of said upper floor.

10. A sound-proof floor construction comprising an upper floor supported upon a lower floor and arranged to support sound-vibrating generating machines, whereby the vibration in the floor below one machine is not transmitted to the portion of the floor below another machine, a vibration deadening structure for supporting said upper floor upon said lower floor, said upper floor being divided into separate areas for supporting said vibration generating machines and said vibration deadening structure being arranged to support said separated areas so that they are out of vibration transmitting contact with each other, and cushioning means interposed between and serving as a joint in the upper floor for said areas.

11. In a sound-proof floor construction, the system of supporting sound-generating machines upon a floor whereby the vibration in the floor below one machine is not transmitted to the surrounding portion of the floor, which comprises providing the floor in separate areas, each area for supporting one or more machines, and supporting these areas by vibration deadening structures below the floor, each of which is entirely independent of and disconnected from the adjacent vibration deadening structures, and arranging each of said vibration deadening structures so that its capacity to absorb vibration may be predetermined according to the load to be supported.

12. A sound-proof floor construction, comprising in combination a plurality of disconnected floor areas, each of which constitutes a separate vibration absorbing platform for sound-vibration generating mediums, a vibration deadening supporting structure for each area, said vibration deadening supporting structures each comprising a series of cushioning supports for a plurality of cross strips, a wooden flooring or the like carried by said cross strips, and a finishing flooring on said wooden flooring, said finish-

ing flooring comprising a layer of mastic material having a high tenacity and a tendency to absorb sound vibration.

13. A sound-proof floor construction, comprising in combination a plurality of disconnected floor areas, each of which constitutes a separate vibration absorbing platform for sound-vibration generating mediums, a vibration deadening supporting structure for each area, said vibration deadening supporting structures each comprising a series of cushioning supports for a plurality of cross strips, a rough flooring on said cross strips, and a finishing flooring on said rough flooring, said finishing flooring comprising a layer of material of high tenacity and tending to absorb sound-vibration, and non-vibration transmitting means for joining said rough flooring and said finishing flooring of each disconnected area.

14. A sound-proof floor construction, comprising in combination a plurality of disconnected floor areas, each of which constitutes a separate vibration absorbing platform for sound-vibration generating mediums, a vibration deadening supporting structure for each area, said vibration deadening supporting structures each comprising a series of cushioning supports for a plurality of cross strips, a rough flooring on said cross strips, and a finishing flooring on said rough flooring, said finishing flooring comprising a layer of material of high tenacity and tending to absorb sound-vibration, and non-vibration transmitting means for joining said rough flooring and said finishing flooring of each disconnected area, said means being countersunk in said rough flooring and said finishing floor and flush with the surface of the latter flooring.

15. A sound-proof floor construction, comprising in combination a plurality of disconnected floor areas, each of which constitutes a separate vibration absorbing platform for sound vibration generating mediums, a vibration deadening supporting structure for each area, said vibration deadening supporting structures each comprising a series of cushioning supports for a plurality of cross strips, a flooring fastened to said cross strips, a finishing flooring comprising a layer of mastic material of substantially high tenacity laid upon said first flooring, and means preventing lateral transmission of sound-vibration between said areas comprising a pair of spaced parallel members having a cushioned mounting upon said first flooring and provided with means secured thereto for holding a strip of resilient material between the finishing floor of the adjacent areas.

16. A sound-proof floor construction including an upper finishing floor, the edges of which are spaced from the walls of the room, a vibration deadening structure for supporting said upper floor, and means protruding from said walls and overlapping the edges of said finishing floor but out of physical contact therewith for serving as a protective covering for the space between said finishing floor and said walls.

17. A sound-proof floor construction including an upper finishing floor divided into a plurality of areas, and a water-proof non-vibration transmitting joint connecting said areas.

18. A sound-proof construction including an upper finishing floor divided into a plurality of areas which are out of vibration transmitting contact with each other, and non-vibration transmitting means for joining said areas.

19. A sound-proof floor construction including an upper finishing floor divided into a plurality of areas which are out of vibration transmitting contact with each other, and cushioning means for connecting said areas together, said cushioning means comprising spaced parallel members and shock absorbing strips interconnecting said members.

20. A sound-proof floor construction including an upper finishing floor arranged to support sound-vibration generating machines upon disconnected areas of the floor, said areas being spaced apart at their line of separation a distance sufficient to prevent vibration transmitting contact, and means for closing said spaces without destroying the non-vibration transmitting relation of said areas.

In witness whereof, I have hereunto subscribed my name.

EVERETT N. MURPHY.