A raised floor with improved structure comprises a metal base, an adhesive layer, and a hard material layer. The metal base is provided with a space therein and has a top and a bottom. The top of the metal base is provided with a plurality of holes and the internal wall of each hole is a binding part. The bottom of the metal base is provided with a plurality of upward recessed parts. The adhesive layer is coated on the top of the metal base. The hard material layer is adhered onto the adhesive layer. After the hard material layer is adhered to the adhesive layer, part of the adhesive in the adhesive layer will be pressed into the holes and attach onto the binding parts. Consequently, it is able to enhance the binding ability of the adhesive layer, so that the hard material layer can be attached more firmly to the metal base.
RAISED FLOOR WITH IMPROVED STRUCTURE

TECHNICAL FIELD

[0001] The present invention relates to a raised floor and, more particularly, to a raised floor with improved structure, where the internal walls, of a plurality of holes provided at the top of the metal base are used as binding parts for being attached by the adhesive of the adhesive layer in order to enhance the binding ability of the adhesive layer for the metal base; and consequently a hard material layer can be firmly attached to the metal base.

BACKGROUND

[0002] In workplaces where computers are commonly used, the arrangement and wiring of different kinds of wires and cables (such as Internet cables) are of great importance. In order to electrify the computers or to connect the computers one with another, wires and cables are necessarily required. However, with the increase of the number of the computers or other computer-related equipments, more wires and cables are required. Accordingly, the arrangement of these wires and cables becomes more complicated and difficult. Exposed wires and cables may not only easily become nuisances, but also will hinder the walking of the staff in the workplaces. Therefore, in a modernized office, it is a tendency to have floors raised in order to provide room for locating the wires and the cables. Besides, the number of the raised floors can be determined elastically according to the size of the internal space of an office.

[0003] In order to beautify the raised floors, conventionally, it is common to add a layer of hard material (made of, for example, stone, tiles, or wood) on a raised floor. A conventional raised floor can be formed by means of combining two alloy steel plates together. After the combination of two alloy steel plates is complete, the external surfaces thereof are painted in order to provide the raised floor with refined beauty. Finally, the layer of hard material is attached to the raised floor via adhesives.

[0004] However, the binding ability of the adhesives used in the conventional raised floor structure is often insufficient to fix the layer of hard material onto the raised floor due to the poor binding ability of the adhesive layer applied between a layer of metal material and a layer of hard material. Since the raised floor is made by metal material, the layer of hard material may easily slide away from its original position relative to the below raised floor. Moreover, as mentioned above, the raised floor is often painted for the purpose of beauty. The painted surfaces of the raised floor will further weaken the binding ability of the adhesive.

SUMMARY OF THE DISCLOSURE

[0005] An object of the present invention is to provide a raised floor with improved structure, where by using as binding parts the internal walls of a plurality of holes provided at the top of the metal base and having the adhesive of the adhesive layer attached thereon, the binding ability of the adhesive layer can be enhanced so as to make a hard material layer more firmly attached to the metal base.

[0006] In order to achieve above object, the present invention provides a raised floor with improved structure comprising a metal base, an adhesive layer, and a hard material layer. The metal base is provided with a space therein and having a top and a bottom. The top of the metal base is provided with a plurality of holes and the internal wall of each hole is a binding part, while the bottom thereof is provided with a plurality of upward recessed parts. The adhesive layer is coated on the top of the metal base. The hard material layer is adhered to the adhesive layer. After the hard material layer is adhered to the adhesive layer, part of the adhesive in the adhesive layer is pressed into the holes and consequently attaches onto the binding parts.

[0007] In practice, each binding part preferably includes an extension part extending toward the space in the metal base. Consequently, the extension part can be covered with the adhesive in the adhesive layer.

[0008] In practice, the extension part of each binding part preferably forms a bag having a T-shape internal space for receiving the adhesive in the adhesive layer.

[0009] In practice, the top of each recessed part is preferably in contact with the top of the metal base. Besides, at least one hole is preferably located between any two locations at which the tops of recessed parts are in contact with the top of the metal base.

[0010] The following detailed description, given by way of examples or embodiments, will best be understood in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a bottom view showing a metal base in a first embodiment of a raised floor with improved structure of the present invention.

[0012] FIG. 2 is a top view showing the metal base in the first embodiment of a raised floor with improved structure of the present invention.

[0013] FIG. 3 is a cross-sectional view showing the metal base in the first embodiment of a raised floor with improved structure of the present invention.

[0014] FIG. 4 is a cross-sectional view of the first embodiment of a raised floor with improved structure of the present invention.

[0015] FIG. 5A is a partially enlarged view of FIG. 4.

[0016] FIG. 5B is a cross-sectional view of a second embodiment of a raised floor with improved structure of the present invention.

[0017] FIG. 5C is a cross-sectional view of a third embodiment of a raised floor with improved structure of the present invention.

DETAILED DESCRIPTION

[0018] Please refer to FIGS. 1-5A showing a first embodiment of a raised floor with improved structure according to the present invention. The raised floor with improved structure according to the present invention comprises a metal base 1, an adhesive layer 2, and a hard material layer 3.

[0019] In this embodiment, the metal base 1 is formed by piling a upper metal plate 10 on a lower metal plate 12 and then pressing and fixing the peripheries of the upper and lower metal plates 10, 12. After the metal base 1 is formed, an internal space 14 is defined therein. Besides, the metal base also can be formed in one piece without falling outside the scope and departing from the spirit of the present invention.

[0020] The metal base 1 has a top 16 and a bottom 18. The top 16 is provided with a plurality of holes 160 and the inner wall of each hole 160 is a binding part 162. The bottom 18 has a plurality of upward recessed parts 182.
Moreover, in this embodiment, the top of each recessed part 182 is in contact with the top 16 of the metal base 1. In other words, a plurality of contact locations 4 is formed on the top 16 of the metal base 1. Among the holes 160 at least one is located between any two contact locations 4 at which the tops of recessed parts are in contact with the top 16 of the metal base 1. However, above arrangement of the holes in this embodiment is only for illustrative purpose and the holes also can be located at other locations on the top of the metal base.

The adhesive layer 2 is coated on the top 16 of the metal base 1. In practice, the adhesive layer 2 is made by AB glues. Moreover, the hard material layer 4 can be made by stones, tiles, wood, or other hard material.

Please refer to FIGS. 4 and 5A. When being placed on and adhered to the adhesive layer 2, the hard material layer 3 can exert a force to press part of the adhesive of the adhesive layer 2 into the holes 160 provided on the top 16 of the metal base 1 and have the adhesive attached onto the binding parts 162.

Because part of the adhesive of the adhesive layer 2 is attached onto the binding parts 162 in the holes 160, the adhesive layer 2 can be in firmer connection with the metal base 1 when the adhesive is solidified. Consequently, it is effective to enhance the binding force between the hard material layer 3 and the metal base 1 so as to overcome the conventional shortcomings where the hard material layer may easily slides away from its original location because of insufficient binding ability.

Please refer to FIGS. 5B and 5C respectively showing a second and a third embodiment of a raised floor with improved structure according to the present invention. Compared with the first embodiment, the critical difference of the second and the third embodiments is the structure of the binding parts.

As shown in FIG. 5B, in the second embodiment, each binding part 162 further includes an extension part 164. The extension part 164 extends from the inner wall of the hole into the space 14 of the metal base 1. When the hard material layer 3 is placed on the adhesive layer 2, part of the adhesive can further cover the extension parts 164. Thereby, the binding ability between the adhesive layer 2 and the metal base 1 can be enhanced so as to strengthen the connection between the metal base 1 and the hard material layer 3.

Please refer to FIG. 5C. In the third embodiment, the extension part of each binding part further forms a bag 166 having a T-shape internal space. By this modification, when the hard material layer 3 is placed on the adhesive layer 2, the adhesive pressed into the holes can be further attached onto the inner walls of the bags 166. Or, the bags 166 may even be filled fully with adhesive. By this way, the binding ability between the adhesive layer 2 and the metal base 1 can be further enhanced so as to strengthen the connection between the metal base 1 and the hard material layer 3.

As disclosed in above descriptions and attached drawings, the present invention provides a raised floor with improved structure; wherein the internal walls of a plurality of holes provided at the top of the metal base are used as binding parts for being attached by the adhesive of the adhesive layer in order to enhance the binding ability between the adhesive layer and the metal base so as to have a hard material layer firmly attached to the metal base. It is new and can be put into industrial use.

Although the embodiments of the present invention have been described in detail, many modifications and variations may be made by those skilled in the art from the teachings disclosed hereinabove. Therefore, it should be understood that any modification and variation equivalent to the spirit of the present invention be regarded to fall into the scope defined by the appended claims.

What is claimed is:

1. A raised floor with improved structure, comprising: a metal base, provided with a space therein and having a top and a bottom, where the top is provided with a plurality of holes and the internal wall of each hole is a binding part; and the bottom is provided with a plurality of upward recessed parts; an adhesive layer, being coated on the top of the metal base; and a hard material layer, being adhered to the adhesive layer; after the hard material layer being adhered to the adhesive layer, part of the adhesive in the adhesive layer is pressed into the holes and attaches onto the binding parts.

2. The raised floor with improved structure as claimed in claim 1, wherein each binding part further includes an extension part; the extension part extends toward the space in the metal base, so that the extension part is covered with the adhesive in the adhesive layer.

3. The raised floor with improved structure as claimed in claim 1, wherein the extension part of each binding part further forms a bag having a T-shape internal space for receiving the adhesive in the adhesive layer.

4. The raised floor with improved structure as claimed in claim 1, wherein the top of each recessed part is in contact with the top of the metal base; and at least one of the holes is located between any two locations at which the tops of recessed parts are in contact with the top of the metal base.

5. The raised floor with improved structure as claimed in claim 1, wherein the adhesive layer is made by AB glues.

6. The raised floor with improved structure as claimed in claim 1, wherein the hard material layer is made by stones, tiles, or wood.

7. The raised floor with improved structure as claimed in claim 1, wherein the metal base is formed by piling a upper metal plate on a lower metal plate, and then pressing and fixing the peripheries of the upper and lower metal plates.

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