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(54) **FLOOR MAT WITH DAMP-PROOF EFFECT**

(71) Applicant: **CHA YAU SPONGE ENTERPRISE CO., LTD.**, CHANG HWA HSIEN (TW)

(72) Inventor: **JIAN-QUAN GAO**, CHANG HWA HSIEN (TW)

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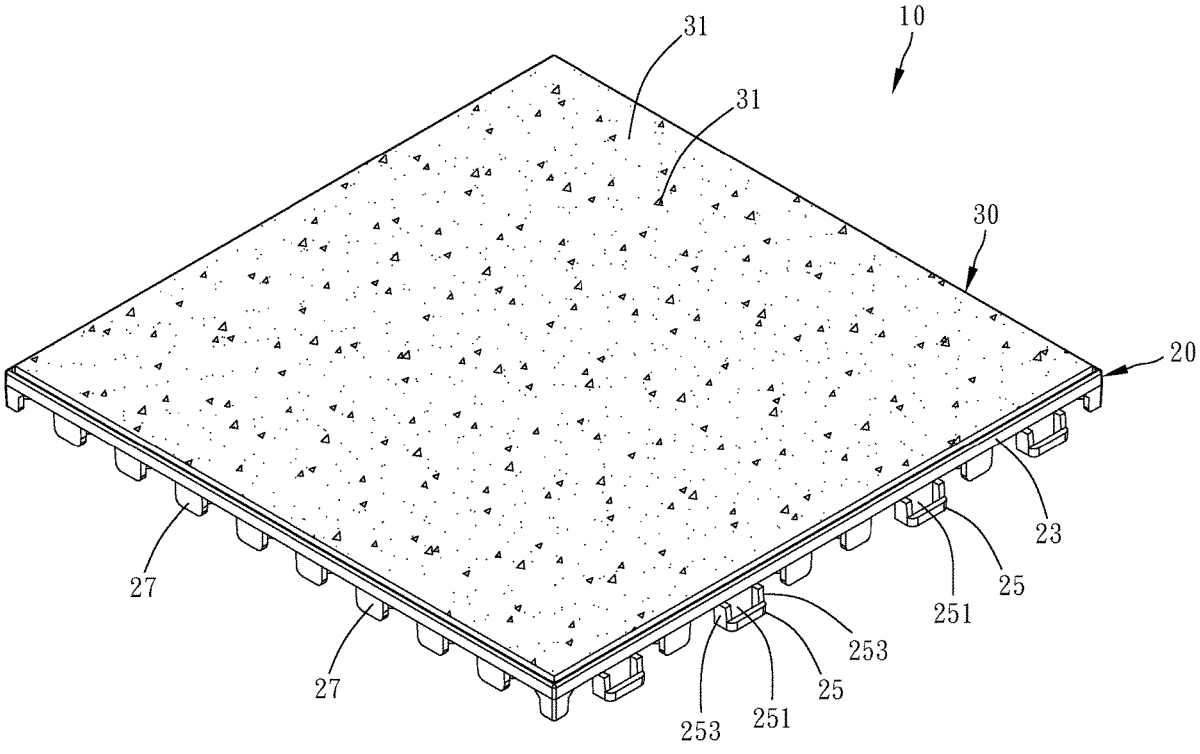
(57) **ABSTRACT**

A floor mat with a damp-proof effect includes a base and a mat portion. The base has a bottom plate, a blocking member, a female fastener, and a male fastener. The bottom plate has a top side and a bottom side. Plural supporting legs extend downward from the bottom side. The blocking member runs along the periphery of the bottom plate and extends upward of, and forms a receiving groove together with, the top side. The female fastener is provided on the periphery of the bottom plate and forms an opening. The male fastener is provided on the same periphery and extends downward of the bottom side. The height of the mat portion, which is detachably received in the receiving groove, is flush with or higher than the top edge of the blocking member. The floor mat will not easily get damp.



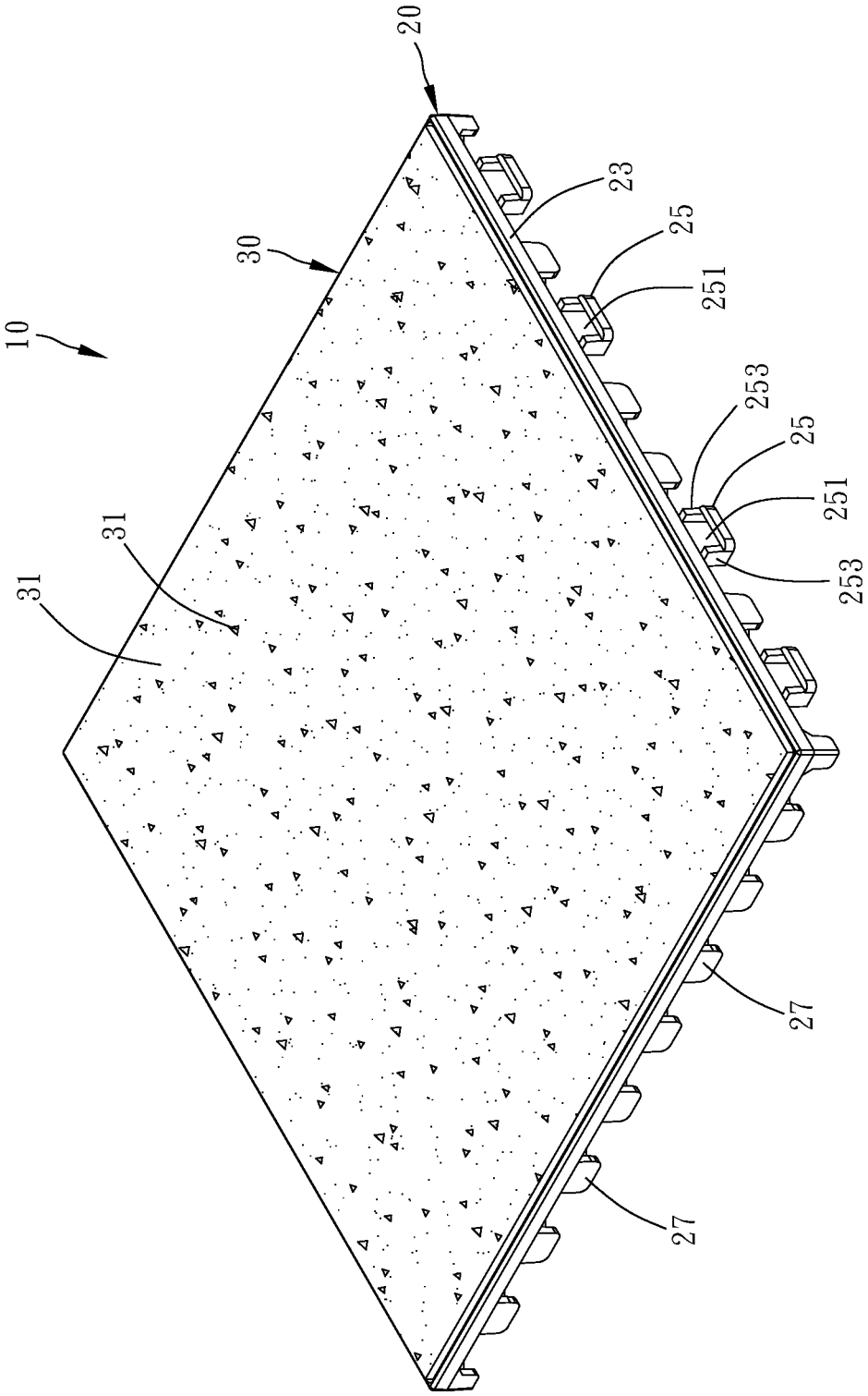


FIG. 1

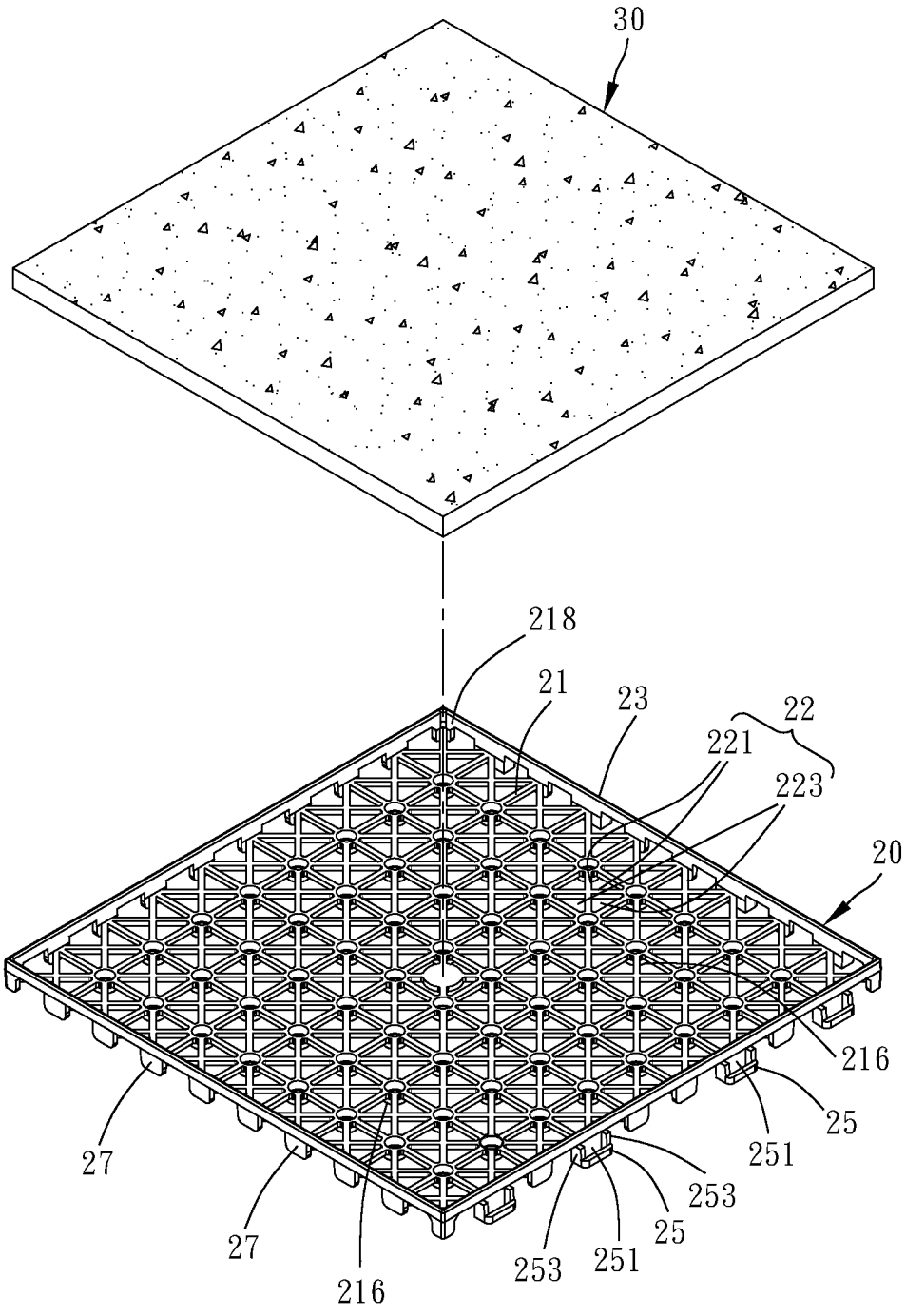
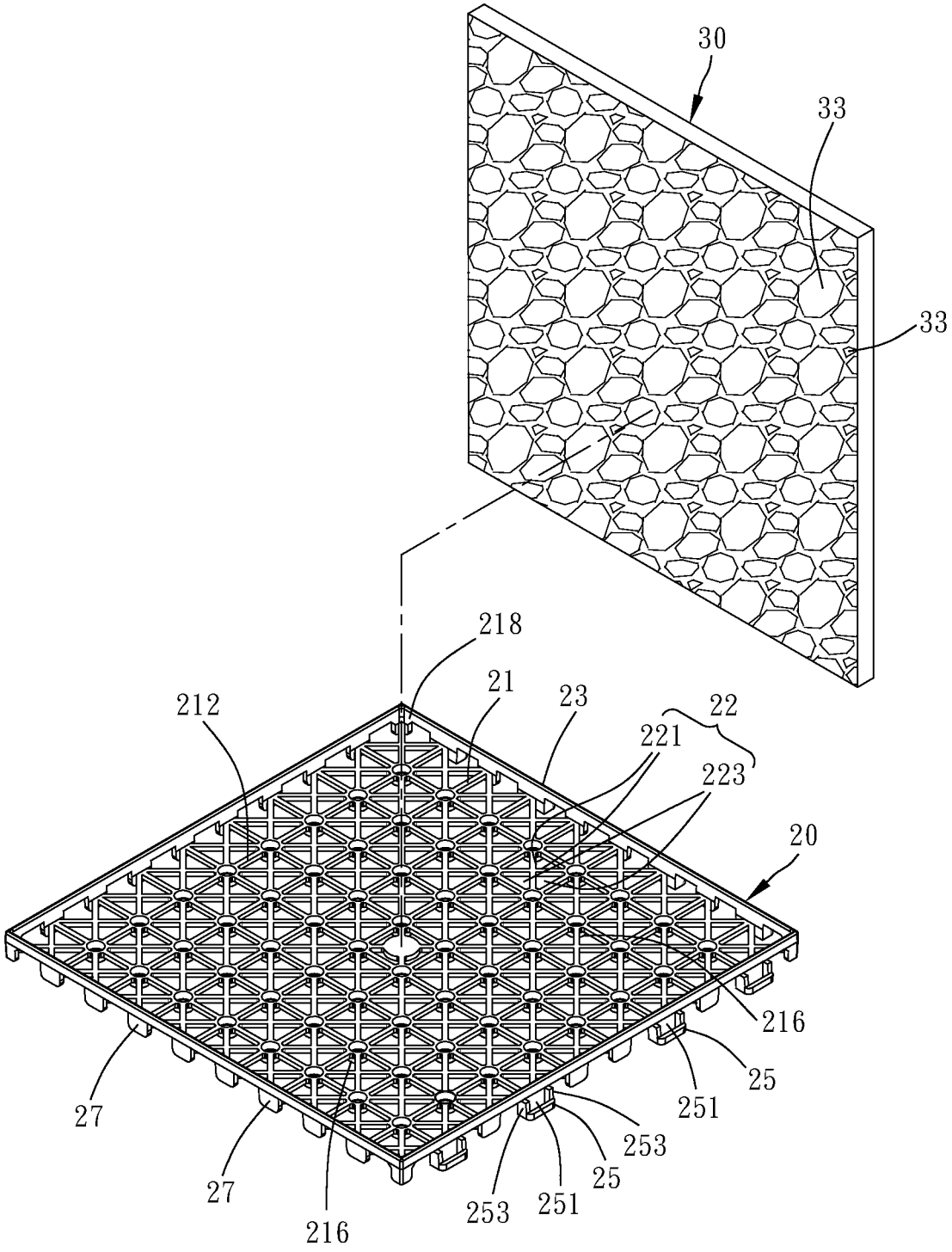


FIG. 2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218
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FIG. 3

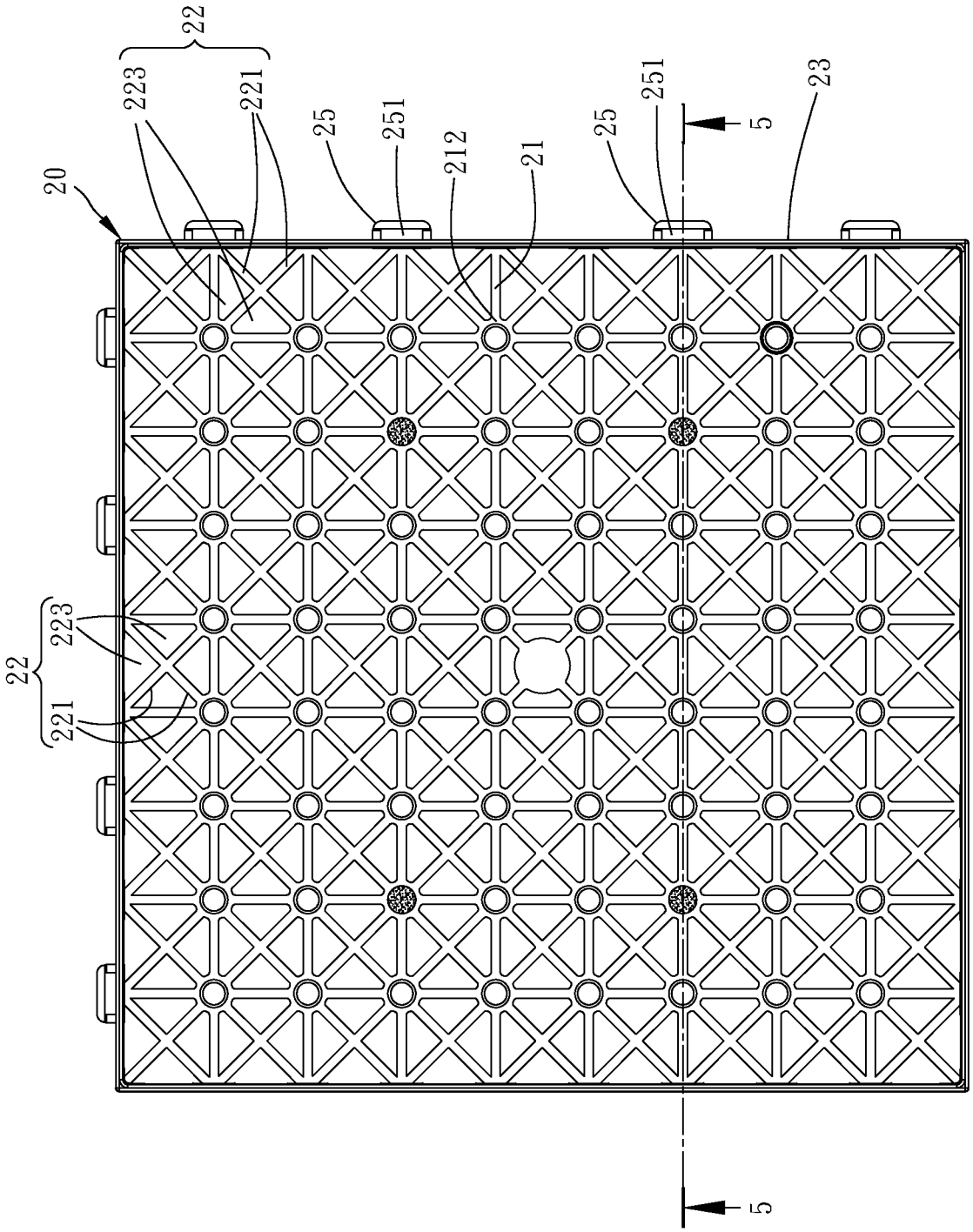

FIG. 4

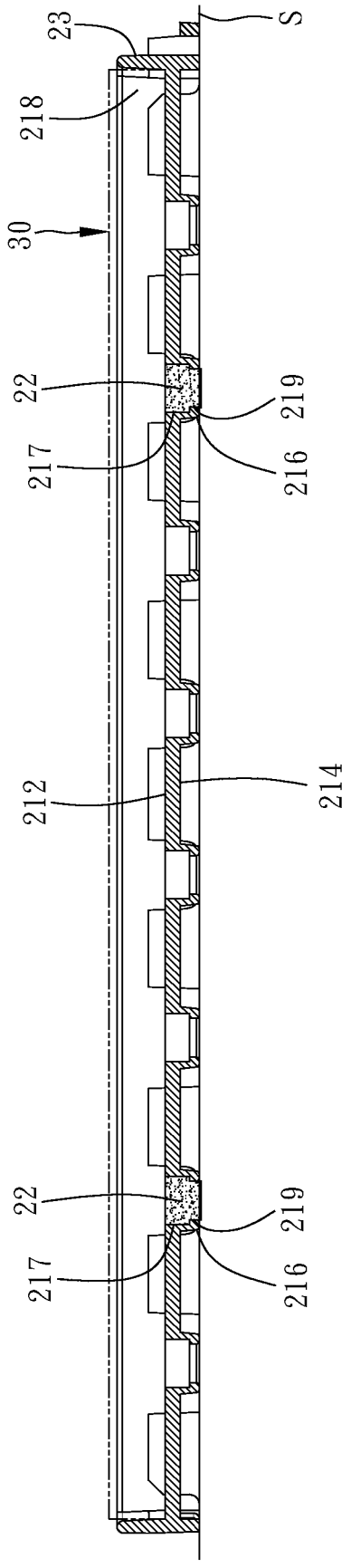

FIG. 5

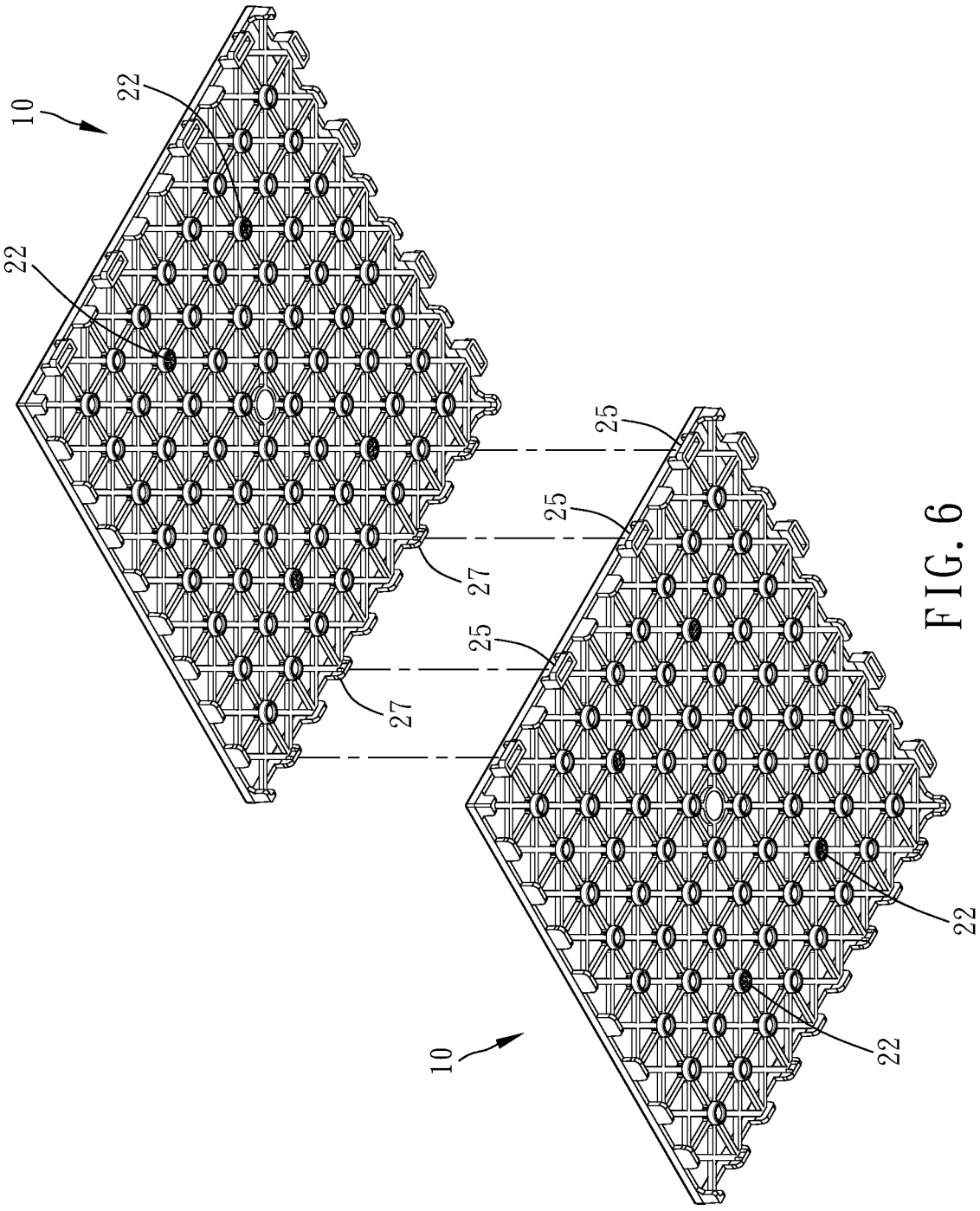

FIG. 6

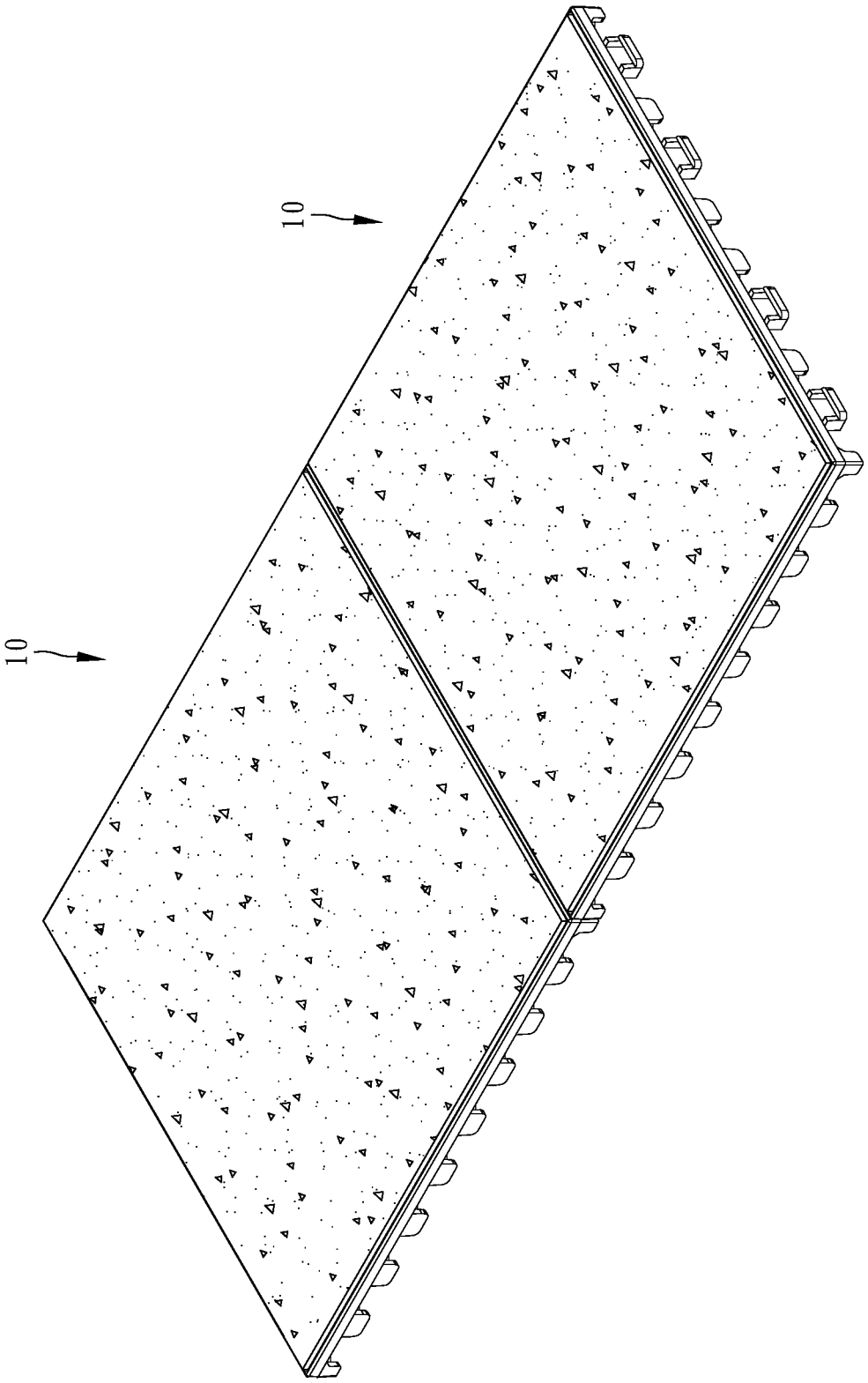

FIG. 7

FLOOR MAT WITH DAMP-PROOF EFFECT

BACKGROUND OF THE INVENTION

1. Technical Field

[0001] The present invention relates to floor mats and more particularly to a floor mat with a damp-proof effect.

2. Description of Related Art

[0002] Floor mats are a common product for use in our daily lives. Please refer to Taiwan Patent No. M532810, which provides a combinational mat structure having an anti-slip effect. The combinational mat is a foamed material made of ethylene-vinyl acetate (EVA), polyethylene (PE), or crosslinked polyethylene (XPE) and can be laid on the floor to provide anti-slip protection for those who have the soles of their feet in contact with the surface of the foamed material.

[0003] Please also refer to Taiwan Patent No. M559135, which provides a prolonged standing-type floor mat. This floor mat essentially includes an inner layer, a surface layer, and an anti-slip layer. The inner layer may be a polyurethane (PU)-based foamed material. The surface layer may be a PU-based imitation leather mat portion. The anti-slip layer may be a neoprene-based foamed material. The floor mat can be laid on the floor to provide great comfort and a sole-soothing cushioning effect to those who would stand on the floor mat for a prolonged period of time.

[0004] In addition, please refer to Taiwan Patent No. M578604, which provides a floor mat for use on a sports field. This floor mat essentially includes a surface layer and a bottom layer. The surface layer has a bumpy pattern on the surface. The bottom layer is fixedly provided on a bottom portion of the surface layer such that the two layers form a single unit. Lattice-like intersecting ribs with rectangular spaces therebetween are distributed over the bottom side of the bottom layer to form lattice-like rectangular grooves. The floor mat for use on a sports field can be laid on the floor to produce a buffering and shock-absorbing effect while being durable.

[0005] It can be known from the above that whether in our daily lives, in sports, or at work, there are certain demands for floor mats. Nevertheless, the aforesaid conventional floor mats tend to get damp after prolonged contact with the floor. When used for a long time and mingled with the dirt in the environment, therefore, these floor mats tend to produce an unpleasant odor or even have bacterial growth. Thus, the conventional floor mats still have inconveniences in use.

BRIEF SUMMARY OF THE INVENTION

[0006] The primary objective of the present invention is to provide a floor mat that has a damp-proof effect and therefore will not easily get damp, let alone produce an unpleasant odor or have bacterial growth, and that also features convenience of use.

[0007] To achieve the above objective, the floor mat with a damp-proof effect provided by the present invention includes a base and a mat portion. The base has a bottom plate, a blocking member, at least one female fastener, and at least one male fastener. The bottom plate has a top side and a bottom side, and a plurality of supporting legs extend downward from the bottom side. The blocking member is provided along the periphery of the bottom plate and extends upward of the top side. The blocking member and the top side form a receiving groove. The at least one female fastener is provided on the periphery of the bottom plate and forms an opening that extends outward and is accessible in an up-down direction. The at least one male fastener is provided on the periphery of the bottom plate and extends downward of the bottom side. The mat portion is detachably provided in the receiving groove, and when the mat portion is received in the receiving groove, the height of the mat portion is flush with or higher than the top edge of the blocking member.

[0008] Thus, the present invention provides a floor mat that has a damp-proof effect, that will not easily get damp and hence is not prone to produce an unpleasant odor or have bacterial growth, and that features convenience of use.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0009] FIG. **1** is a perspective view of a preferred embodiment of the present invention.

[0010] FIG. **2** is an exploded perspective view of the preferred embodiment in FIG. **1**.

[0011] FIG. **3** is another exploded perspective view of the preferred embodiment in FIG. **1**.

[0012] FIG. **4** is a top view of the base of the preferred embodiment in FIG. **1**.

[0013] FIG. **5** is a sectional view taken along line **5-5** in FIG. **4**.

[0014] FIG. **6** shows a state of use of the preferred embodiment in FIG. **1**, illustrating how a plurality of floor mats are put together.

[0015] FIG. **7** shows another state of use of the preferred embodiment in FIG. **1**, illustrating a plurality of floor mats that have been put together.

DETAILED DESCRIPTION OF THE INVENTION

[0016] To demonstrate the technical features of the present invention in detail, a preferred embodiment is presented below and described with reference to FIG. **1** to FIG. **7**.

[0017] As shown in FIG. **1** to FIG. **4**, a floor mat **10** with a damp-proof effect according to a preferred embodiment of the present invention is composed essentially of a base **20** and a mat portion **30**.

[0018] The base **20** has a bottom plate **21**, a blocking member **23**, a plurality of female fasteners **25**, and a plurality of male fasteners **27**. The bottom plate **21** has a top side **212** and a bottom side **214**. A plurality of supporting legs **216** extend downward from the bottom side **214**. The supporting legs **216** are configured to stand on a predetermined object (not shown), and in this preferred embodiment the predetermined object is the floor by way of example such that the bottom plate **21** is spaced apart from the floor by a predetermined distance. The blocking member **23** is provided along the periphery of the bottom plate **21** and extends upward of the top side **212**. The blocking member **23** and the top side **212** form a receiving groove **218** for receiving the mat portion **30**. The plurality of female fasteners **25** are provided on the periphery of the bottom plate **21** and each form an opening **251** that extends outward and can be accessed in an up-down direction. The plurality of male fasteners **27** are provided on the periphery of the bottom plate **21** and extend downward of the bottom side **214**. Each

of the plurality of female fasteners **25** is configured to be fastened to one of the plurality of male fasteners **27** of another floor mat **10** so that a plurality of floor mats **10** can be connected together. In other preferred embodiments, the predetermined object may alternatively be a wall or other objects on which the supporting legs **216** can stand; therefore, the predetermined object is not limited to the floor in this preferred embodiment. Moreover, this preferred embodiment may include only one female fastener **25** and only one male fastener **27** but still allows a plurality of floor mats **10** to be connected together; hence, the number of the female fasteners **25** and the number of the male fasteners **27** are not limited to those shown in the preferred embodiment illustrated herein.

[0019] In this preferred embodiment, the bottom plate **21** is quadrilateral, the plurality of male fasteners **27** are arranged at equal intervals along the periphery of the bottom plate **21**, and the plurality of female fasteners **25** are located on two adjacent sides of the bottom plate **21** and are connected to some of the plurality of male fasteners **27**. In other preferred embodiments, the plurality of female fasteners **25** may be located on two opposite sides of the bottom plate **21** instead, and the bottom plate **21** may be adjusted to other geometric shapes as needed; therefore, the plurality of female fasteners **25** and the bottom plate **21** are not necessarily implemented in the same ways as in the preferred embodiment illustrated herein.

[0020] As shown in FIG. **1** to FIG. **3**, the mat portion **30** is provided in the receiving groove **218** in a detachable manner. When the mat portion **30** is received in the receiving groove **218**, the height of the mat portion **30** is higher than the top edge of the blocking member **23**. In this preferred embodiment, the mat portion **30** has a plurality of solidified polyethylene (PE) particles **31** on one side (see FIG. **2**), and the particle sizes of the plurality of solidified PE particles **31** range from 1 mm to 15 mm to increase friction on the mat portion **30** and to provide wear resistance and an anti-slip effect. The other side (hereinafter referred to as the second side) of the mat portion **30** has a plurality of protuberances **33** (see FIG. **3**). The plurality of protuberances **33** have irregular shapes and are arranged in an irregular manner. The widths of the plurality of protuberances **33** range from 6 mm to 20 mm in order for the second side of the mat portion **30** to simulate a stone-like pattern and provide users with a special visual effect. As the mat portion **30** in the present invention is provided in the receiving groove **218** in a detachable manner, a user may choose to place the mat portion **30** with either the PE particle **31**-side or the protuberance **33**-side facing upward of the receiving groove **218**. In other preferred embodiments, the height of the mat portion **30** may be flush with the top edge of the blocking member **23** instead, and the mat portion **30** may be implemented with any other material that can provide the desired support; therefore, the height and composition of the mat portion **30** are not limited to those in the preferred embodiment illustrated herein.

[0021] In this preferred embodiment, referring to FIG. **2** to FIG. **4**, the plurality of supporting legs **216** are arranged in a matrix to enable even distribution of pressure. The bottom plate **21** is formed with a plurality of ventilation structures **22**, and each ventilation structure **22** has two supporting ribs **221** to increase the supporting strength of the present invention. In each ventilation structure **22**, the two supporting ribs **221** are each connected to two supporting legs **216** and intersect each other to form a plurality of hollow portions **223** that help prevent the mat portion **30** from getting damp after prolonged contact with the bottom plate **21**. In other preferred embodiments, the plurality of supporting legs **216** may be arranged in a different distributed manner or an irregular manner, so the arrangement of the plurality of supporting legs **216** is not limited to that in the preferred embodiment illustrated herein. Besides, other preferred embodiments may dispense with the ventilation structures **22** if it is not necessary to increase the supporting strength and if damp between the mat portion **30** and the bottom plate **21** is unlikely to take place; hence, the ventilation structures **22** are not essential to implementing the invention.

[0022] In the preferred embodiment shown in FIG. **2** to FIG. **4**, the blocking member **23** is perpendicular to the top side **212** to produce a position-limiting effect on the mat portion **30**, to provide better support, and when a plurality of floor mats **10** are connected together, to minimize the gaps between the mat portions **30**, thereby increasing the comfort of use and preventing accumulation of grime. The plurality of male fasteners **27** are perpendicular to the bottom side **214** so that when a plurality of floor mats **10** are connected together, the male fasteners **27** can also provide better support and minimize the gaps between the mat portions **30** so as to increase the comfort of use and prevent accumulation of grime. In other preferred embodiments, the blocking member **23** need not be perpendicular to the top side **212**, and the plurality of male fasteners **27** need not be perpendicular to the bottom side **214**, if the gaps between the mat portions **30** will not compromise the comfort of use, if there is already sufficient supporting strength, and if accumulation of grime is unlikely to occur; therefore, the blocking member **23** and the plurality of male fasteners **27** are not limited to those in the preferred embodiment illustrated herein.

[0023] In this preferred embodiment, each female fastener **25** further has two stop walls **253**, wherein the two stop walls **253** extend outward from the blocking member **23** and are connected respectively to two opposite sides of the opening **251** of the female fastener **25**. When each female fastener **25** is fastened to a corresponding male fastener **27** of another floor mat **10**, the two stop walls **253** of each female fastener **25** can effectively confine the corresponding male fastener **27**, thereby effectively increasing the stability of the plurality of floor mats **10** connected together, preventing the floor mats **10** from horizontal movement with respect to one another. In other preferred embodiments, if there is no need to increase the stability of a plurality of floor mats **10** connected together, the openings **251** alone suffice to prevent the plurality of floor mats **10** from being horizontally moved with respect to one another; therefore, the two stop walls **253** of each female fastener **25** are not essential to implementing the present invention.

[0024] In the preferred embodiment shown in FIG. **4** and FIG. **5**, the plurality of supporting ribs **221** are shaped as hollow tubes, and each of the plurality of supporting legs **216** has a large-diameter section **217** and a small-diameter section **219**, wherein the large-diameter section **217** is adjacent to the bottom plate **21** while the small-diameter section **219** is located away from the bottom plate **21**. Some of the plurality of supporting legs **216** are filled with an anti-slip material **22**, and thanks to the width difference between the large-diameter section **217** and the small-diameter section **219** of those supporting legs **216**, the

anti-slip material **22** is confined in those supporting legs **216**. The anti-slip material **22** is a thermoplastic elastomer by way of example. The anti-slip material **22** protrudes from the lower ends of those supporting legs **216** to increase friction between the present invention and the floor so that the invention will not easily move with respect to the floor. In other preferred embodiments, the anti-slip material **22** may be a plastic material with a rough surface or any other material that can increase friction, and the anti-slip material **22** may be flush with the lower ends of those supporting legs **216** but still capable of providing increased friction; therefore, the anti-slip material **22** is not necessarily implemented in the same way as in the preferred embodiment illustrated herein. Besides, other preferred embodiments may dispense with the anti-slip material **22** if there is no need to increase the friction between the invention and the floor; hence, the anti-slip material **22** is not essential to implementing the invention.

[0025] In the preferred embodiment shown in FIG. **2** to FIG. **5**, the lower ends of the plurality of supporting legs **216** and the lower ends of the plurality of male fasteners **27** are located on the same virtual plane S (see FIG. **5**); thus, in addition to being fastenable to the female fasteners **25** of other floor mats **10**, the plurality of male fasteners **27** provide a supporting effect. In other preferred embodiments, it is feasible for the lower ends of the plurality of male fasteners **27** to not reach as far as the virtual plane S if there is no need for an enhanced supporting effect; therefore, the technical feature of the lower ends of the plurality of supporting legs **216** being on the same virtual plane S as the lower ends of the plurality of male fasteners **27** is not essential to implementing the present invention.

[0026] The foregoing paragraphs have described the structure of a preferred embodiment of the present invention. The following paragraphs will go on to describe some states of use of the preferred embodiment of the invention.

[0027] To use a single unit of the present invention, referring to FIG. **1** to FIG. **5**, the base **20** is put on the floor, and the mat portion **30** is placed in the receiving groove **218** such that the height of the mat portion **30** is higher than the top edge of the blocking member **23**. With the plurality of supporting legs **216** and the plurality of male fasteners **27** standing on the floor, the bottom plate **21** is spaced apart from the floor by the predetermined distance stated above, and in consequence the mat portion **30** is in contact with the top side **212** rather than in direct contact with the floor and is thus effectively kept from getting damp as may otherwise result from prolonged contact with the floor. In addition, pressure is allowed to be evenly distributed due to the fact that the plurality of supporting legs **216** are arranged in a matrix and that the plurality of male fasteners **27** are arranged at equal intervals. The plurality of hollow portions **223** formed in the bottom plate **21** help prevent damp between the mat portion **30** and the bottom plate **21** after long-term contact therebetween. Since the height of the mat portion **30** is higher than the top edge of the blocking member **23**, a user will not contact the blocking member **23** and is therefore spared the discomfort of such contact. Furthermore, the detachability of the mat portion **30** from the receiving groove **218** allows a user to choose and use other types of mat portions.

[0028] To connect multiple units of the present invention together, referring to FIG. **4**, FIG. **6**, and FIG. **7**, the plurality of male fasteners **27** on one side of a floor mat **10** are fastened to the plurality of female fasteners **25** on one side of another floor mat **10** in a downward direction to complete the connection between the two floor mats **10**. The invention, therefore, features great convenience of use. As each female fastener **25** has two stop walls **253**, each male fastener **27** fastened to a female fastener **25** is effectively confined by the two stop walls **253** of the female fastener **25** to increase the stability of the plurality of connected floor mats **10**, preventing the floor mats **10** from being horizontally moved with respect to each other.

[0029] According to the above, the floor mat with a damp-proof effect provided by the present invention has the technical feature that the plurality of supporting legs (and optionally the plurality of male fasteners) stand on the floor. This allows the mat portion to contact the top side without direct contact with the floor, so the mat portion is effectively kept from getting damp, producing an unpleasant odor, and having bacterial growth as may otherwise result from prolonged contact with the floor and hence features convenience of use.

[0030] Also, the floor mat with a damp-proof effect provided by the present invention has the plurality of female fasteners **25** and the plurality of male fasteners **27** as one of its technical features so that a plurality of floor mats can be connected together with ease.

[0031] Moreover, the floor mat with a damp-proof effect provided by the present invention has the technical feature that the plurality of supporting legs are arranged in a matrix and that the plurality of male fasteners are arranged at equal intervals. This enables even distribution of pressure.

[0032] Further, the floor mat with a damp-proof effect provided by the present invention has the technical feature that the bottom plate is formed with the plurality of hollow portions **223**. This prevents the mat portion from getting damp after long-term contact with the bottom plate.

[0033] In addition, the floor mat with a damp-proof effect provided by the present invention has the technical feature that the mat portion can be detached from the receiving groove. This allows a user to choose and use other types of mat portions as needed.

What is claimed is:

1. A floor mat with a damp-proof effect, comprising:

a base having a bottom plate, a blocking member, at least one female fastener, and at least one male fastener, wherein the bottom plate has a top side and a bottom side, a plurality of supporting legs extend downward from the bottom side, the blocking member is provided along a periphery of the bottom plate and extends upward of the top side, the blocking member and the top side form a receiving groove, the at least one female fastener is provided on the periphery of the bottom plate and forms an opening that extends outward and is accessible in an up-down direction, and the at least one male fastener is provided on the periphery of the bottom plate and extends downward of the bottom side; and

a mat portion detachably provided in the receiving groove, wherein when the mat portion is received in the receiving groove, a height of the mat portion is flush with or higher than a top edge of the blocking member.

2. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the plurality of supporting legs are arranged in a matrix.

3. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the bottom plate is formed with a plurality of ventilation structures, each said ventilation structure has two supporting ribs, and the two supporting ribs of each said ventilation structure are each connected to two said supporting legs and intersect each other to form a plurality of hollow portions.

4. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the blocking member is perpendicular to the top side, and the at least one male fastener is perpendicular to the bottom side.

5. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the at least one female fastener further has two stop walls, and the two stop walls extend outward from the blocking member and are connected respectively to two opposite sides of the opening.

6. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the plurality of supporting legs are shaped as hollow tubes, and each of the plurality of supporting legs has a large-diameter section adjacent to the bottom plate and a small-diameter section located away from the bottom plate, some of the plurality of supporting legs are filled with an anti-slip material, and the anti-slip material is flush with or protrudes beyond lower ends of said some of the plurality of supporting legs.

7. The floor mat with the damp-proof effect as claimed in claim **1**, wherein lower ends of the plurality of supporting legs and a lower end of the at least one male fastener are located on a same virtual plane.

8. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the bottom plate is quadrilateral, there are a plurality of said male fasteners and a plurality of said female fasteners, the plurality of male fasteners are arranged at equal intervals along the periphery of the bottom plate, and the plurality of female fasteners are located on two adjacent sides of the bottom plate and are connected to some of the plurality of male fasteners.

9. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the mat portion has a side with a plurality of solidified polyethylene particles, and the plurality of solidified polyethylene particles have particle sizes ranging from 1 mm to 15 mm.

10. The floor mat with the damp-proof effect as claimed in claim **1**, wherein the mat portion has a side with a plurality of protuberances, the plurality of protuberances are of irregular shapes and are irregularly arranged, and the plurality of protuberances have widths ranging from 6 mm to 20 mm.

* * * * *