ABSTRACT

A combination furniture support and furniture leveling device placed between furniture members and carpet. The apparatus is comprised of a substantially horizontal platform to receive furniture members, and which exhibits a plurality of downward projecting stand-off screws attached to the platform. The stand-off screws extend through a carpet to transfer furniture weight directly to the structural floor underlying the carpet and are adjusted to elevate the platform just above the carpet pile; carpet damage from furniture is thusly prevented by alleviating the normal crushing of carpet inflicted by the weight of furniture. Herein also provided is a combination carpet protector and furniture leveling apparatus with adjustable height features for providing level support of furniture on sloped, irregular, or carpeted surfaces.
FIG. 14
FURNITURE SUPPORT, LEVELING DEVICE, AND CARPET PROTECTOR COMBINATION

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Patent Application Ser. No. 61/796,691 filed on Nov. 19, 2012 entitled “Furniture Support, Leveling Apparatus, and Carpet Protector Combination”, the disclosure of which is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] This invention relates to the fields of floor covering and protection thereof. More particularly, the present invention pertains to devices and systems which protect carpet from furniture and other articles which normally lie on and cause indentations in carpet. This device additionally relates to apparatuses used to level furniture and fixtures placed on carpet which has been laid over a primary floor surface.

BACKGROUND OF THE RELATED ART

[0003] Carpet systems are generally comprised of 3 components: a stiff yet pliable backing material formed in an open weave or mesh pattern; strands of usually nylon material fabric woven through the backing forming upright tufts—collectively referred to as carpet “pile”—the tufts are typically secured at the underside of the backing with a latex based binder; and the third component is a pad commonly consisting of foam or rubberized material which is laid between the primary or structural floor surface and the carpet backing.

[0004] When furniture is placed on carpet a prolonged period of time, furniture members can cause damage as permanent indentations are formed in the carpet. These indentations become apparent when the furniture is moved, and result from the crushing effect of the furniture weight upon the carpet backing and pad. The normal resilience of backing and pad is reduced, and they will no longer return to original form. The only remedies are to either cover the indentations with alternate furniture or replace the carpet and pad. These options are neither practically feasible nor economically viable in most situations.

[0005] Prior furniture supports, intended as carpet protectors have been produced. The original designs resembled “coasters” constructed from plastic, wood, glass, or rubber, and were placed between furniture legs and carpet. Typically, the only effect following prolonged application was to spread the weight of the furniture over larger areas, and increase the size of carpet indentations left after the furniture was moved. (see patent #s: U.S. Pat. Nos. 1,903,690, 1,912,728, 1,969, 266, 3,138,893)

[0006] In subsequent years, re-designed versions of furniture support incorporated vertical posts projecting downward from the base or pedestal. Although the posts in these versions frequently were sufficient length and shape to pass through causing minimal damage to the carpet pile, they did not alleviate the crushing of the carpet backing and pad inflicted by furniture weight. Depressions were still evident on the surface through the carpet pile.

[0007] (Ref. patent No. s: 342,970, U.S. Pat. Nos. 1,559, 827, 5,743,506)

[0008] In yet more recent attempts to solve the problem, furniture support devices have relied upon a means which transfers the furniture weight from the pedestal base directly to the underlying floor surface. The common elements of these devices include a horizontal base with a plurality of posts or “pins” extending downward, penetrating the carpet, backing, and pad until they contact the floor surface. Post lengths are selected which elevate the apparatus base so as not to come in contact with the carpet pile, thus preventing the crushing effect of furniture on the carpet system. These devices properly installed, met the crucial need to displace furniture weight off the carpet, thusly preventing the normal indentations in carpet.


[0010] Unfortunately, these recent devices failed to address several practical and functional problems encountered during their installation and use. Firstly, the designers of this previous art make the assumption that the users have knowledge of the precise depth of the carpet system; such measurement is necessary to determine the proper post (or “pin”) length. In practical instance, the carpet will have already been laid, thus concealing the particular depth. Prior art does not provide a means or method to determine this measurement—an essential step for selection of correct post length; inappropriate length will generally cause several problems related the installation and use of these devices.

[0011] The application of posts which are too long will raise the platform unnecessarily high causing instability of the device and furniture it supports, as well as increased risk of collapse of one or more posts triggering failure of the device. Conversely, utilization of posts which are not long enough, will cause the platform to crush the carpet system under the furniture weight. In either of these instances, damage can result to the carpet and/or furniture.

[0012] Lacking ability to pre-determine the correct post length prior to installation, the user may also resort to a “trial and error” method. In addition to being very time consuming, this method would include repeated penetration of the carpet backing by the support posts during “trials” and result in permanent damage to the carpet backing.

[0013] A secondary deficiency encountered in use of these devices results from the reliance upon a limited variety of available fixed post lengths. In practical application, the floor surfaces underlying the carpet upon which the posts rest rarely present a uniformly level and smooth surface. Variations in the floor height due to defect, uneven finish, and/or protrusions are near infinite and generally concealed by the carpet system. These conditions pose great difficulty in pre-determining the precisely correct post length, and render the selection of post lengths which exactly compensate for these floor height variations highly improbable. The application of posts of improper lengths would result in one or more posts failing to contact the floor surface thereby proportionally sharing the furniture weight. The resulting disproportional sharing of the furniture weight between the support posts can result in failure or collapse of the “overloaded” posts. Severe or multiple post failure can cause the device platform and furniture to drop, again causing damage to the carpet and/or furniture. The need for support posts capable of minute height adjustments herein is evidenced. This adjustment feature would be additionally enhanced by supplying a tool and method which allows adjustments to post heights while the device is in place as a support for furniture.

[0014] One can conclude from this discourse that the previous art of furniture supports intended to protect carpet from
damage by furniture neglect to address several practical issues encountered in their application. The need remains for a device and system which provides: (a) means to pre-measure the combined carpet, backing, and pad height; (b) platform support posts capable of minute adjustments to length projected below the device platform; (c) for the aforementioned height adjustments to be made while the device is in place supporting furniture.

**BRIEF SUMMARY OF THE INVENTION**

[0015] The present invention provides an adjustable furniture support which protects carpet and carpet padding from the normal damage, in the form of visible indentations, caused by furniture placed on the carpet for extended intervals of time. An embodiment of the present invention provides an elevated platform including adjustable height feature on which furniture members rest whereby aforementioned damage is minimized.

[0016] An embodiment of the present invention is comprised of a generally horizontal platform and includes a quantity of adjustable vertical shafts projecting downward. The platform consists of an upper surface which receives and engages with members or surfaces of furniture bearing the furniture weight, a lower surface, and an integral body component which has a quantity of threaded bores which extend from the upper and through the lower body surfaces. A minimum of 4 downwardly projecting stand-off screws are attached to the threaded bores in the body, and the quantity of stand-off screws attached may be increased proportional to the weight of furniture supported. The stand-off screws are comprised of a machine threaded upper shank which mates with the threaded bores in the platform body, and a smaller diameter shaft for the lower portion exhibiting a smooth surface and chamfered distal tip. The downward projection of the stand-off screws may be adjusted by turning them so as to raise the platform body until contact is avoided with the underlying carpet pile. With the platform positioned over a carpet and under the furniture member exerts weight, the lower shaft of the stand-off screws extend through the underlying carpet pile, penetrate the carpet backing and pad material until the shaft contacts the floor surface thereby transferring furniture weight. Functional damage to the carpet backing and padding is negligible, and any aesthetic damage is obscured by the overlying carpet pile. Several additional non-threaded bores in the platform body may be used for viewing temporary locating markers placed on top of the carpet and facilitate accurate positioning of the platform. By placing furniture upon an appropriate number of platforms, which are individually adjusted in vertical height by means of the adjustable stand-off screws such that its lower surface clears the top of the carpet pile, damage to the carpet and pad thereunder is minimized. An embodiment of the present invention may also concurrently provide means to level and stabilize furniture when placed over a stepped, irregular, or slightly sloped floor surface; this may be achieved by the independent vertical adjustment of the quantity of stand-off screws attached to the platform body.

[0017] A more complete understanding of the invention may be gained from the accompanying drawings together with the descriptions herein of the preferred embodiments of the invention.

**BRIEF DESCRIPTION OF THE FIGURES**

[0018] FIG. 1 is a vertical sectional view of one embodiment of the invention (contour illustrated by hidden lines) in one typical application supporting a furniture leg and positioned over a carpet, carpet pad, and underlying floor material;

[0019] FIG. 2 is an exploded perspective view of the embodiment in FIG. 1;

[0020] FIG. 3a is a perspective view of the embodiment in FIG. 2 depicting the platform upper surface and demonstrating the adjustment of the stand-off screws for leveling the device as shown in FIG. 4 and FIG. 5;

[0021] FIG. 3b is a perspective view of another embodiment of the invention depicting an alternate configuration for the upper surface which includes a separate insert;

[0022] FIG. 4 is a side elevation of the invention demonstrating its leveling feature when positioned over carpet, carpet pad, and a floor surface exhibiting irregular heights;

[0023] FIG. 5 is a side elevation of the invention demonstrating the leveling feature when positioned over carpet, carpet pad, and a slightly sloped floor surface;

[0024] FIG. 6 is a perspective view of one application using the embodiment in FIG. 2 to support furniture legs with “L” shaped corner legs and rectangular shaped side legs;

[0025] FIG. 7 is an enlarged perspective view (detail “C”) of the device positioned to support a rectangular shaped leg of furniture depicted in FIG. 6;

[0026] FIG. 8 is an enlarged perspective view (detail “C”) of the device positioned to support an “L” shaped leg of furniture depicted in FIG. 6;

[0027] FIG. 9 is a perspective view of one application using the embodiment in FIG. 1 to support furniture legs which terminate at the bottom with a caster;

[0028] FIG. 10 is an enlarged perspective view (detail “D”) of the device positioned to support the caster equipped furniture leg depicted in FIG. 9;

[0029] FIG. 11 is an enlarged elevation view (detail “D”) of the device positioned to support and engage the caster equipped furniture leg depicted in FIG. 9;

[0030] FIG. 12 is a perspective view of a tool that aids in alignment of the present invention;

[0031] FIG. 13 is a front view of a tool that aids in alignment of the present invention; and

[0032] FIG. 14 is a side view of a tool that aids in alignment of the present invention.

**DETAILED DESCRIPTION OF THE INVENTION**

[0033] With reference to the detailed drawings herein is presented embodiments of the invention FIGS. 1-11 consisting of a device for supporting furniture and protecting carpet. Like features or components are indicated in the drawings using like numerals and/or symbols. The invention is comprised of generally horizontal and rigid components: a top surface with receiving surfaces 16 which is the receiving area upon which furniture members rest, an integral body element 10 with sides 15 and which includes a quantity of vertical and downward projecting screws (hereafter referenced as “stand-off screws”) 11, and a lower surface 24. The integral body 10 with receiving surfaces 16 may be formed of a non-rusting metal: plastic, polycarbonate, ABS, or composites thereof exhibiting sufficient characteristics of strength and rigidity. The particular embodiment of the body 10 of the invention as shown in FIG. 2 is formed roughly in the shape of a square and may incorporate a plurality of stand-off screws 11. The horizontal element and body 10 of the present invention may be formed in alternate dimensions or embodiments of rectangu-
lar, polygonal, or circular shapes with dimensions to accommodate a variety of furniture weights or aesthetic objectives.

In the embodiment of the invention FIG. 2, each stand-off screw 11 consists of 2 segments: an upper shank 12 which is machine threaded and of larger diameter than the second and lower segment; a shaft 13 which has a smooth surface and chamfered distal tip. The threaded shank portion 12 is mated with the threaded holes 41 in the platform body 10 allowing (providing) adjustment of the platform body 10 height by manual rotation of the stand-off screws 11 as shown in FIG. 2. In the embodiment FIG. 2 the upper shank 12 of the stand-off screw 11 is machine threaded, and contains (includes, provides) a recess in the top surface which accepts a wrench for adjustment purposes. The lower shaft 13 of the stand-off screw 11 in the embodiment FIG. 2 has a smooth finished surface, and chamfered distal tip which fully penetrates the carpet backing and pad and rests upon the supporting floor surface. The stand-off screws 11 may be fabricated from stainless steel or other non-corrosive material to avoid possible damage to underlying materials if moisture is present.

In yet other embodiments of the present invention, the segments 12 and 13 of stand-off screws 11 attached to the platform body 10 may differ from those presented in the attached drawings with respect to length and/or diameter to accommodate a variety of environmental conditions presented. Said conditions may include carpet pile and/or pad thicknesses differing from those presented in FIG. 1. Other environmental conditions, limited to reasonable extents, may include: an irregular floor surface as depicted in FIG. 3a and FIG. 4, a sloped floor surface as depicted in FIG. 5, a protrusion in a floor surface, and/or situations wherein the furniture being supported presents multiple load exerting surfaces which do not lie in the same horizontal plane.

The top of the present invention is comprised of an uppermost receiving surface 16 of the platform 10 together with multiple concentric and horizontal receiving surfaces 16; each receiving surface 16 is comprised of a distinct circular horizontal plane established at progressively greater depths below the uppermost receiving surface 16 thereby creating a tiered effect. The diameter of the receiving surfaces 16 decreases with as the depth increases, and the inherent ridges created between the tiers may restrict lateral movement of furniture members placed thereon, as depicted in FIG. 1. The uppermost of the circular tiered receiving surfaces 16 of the embodiment in FIG. 2 includes three rectangular and extensions 17 of same plane and centered at consecutive 90 degree clockwise orientations. As represented in the embodiment of the present invention in FIGS. 6, 7, and 8, the rectangular extensions 17 are arranged so as to provide surfaces to receive "L" shaped and rectangular shaped members of furniture bearing weight of furniture.

Another embodiment of the present invention FIG. 36 is similar to the embodiment represented in FIG. 2 with the following exceptions: the top receiving surface is now formed as a removable insert 16 with detachable spacer ring 25. In the embodiment FIG. 36 the top of the platform 15 contains one circular and uniplanar depressed surface with 3 rectangular extensions FIG. 2, 17. The removable insert 16 is the same shape and height as the depression in the top of the platform base 15 in FIG. 36 with perimeter dimensions sized so as to create a tight fit when placed inside the depressed area. The platform base 15 with removable insert 16 and detachable spacer ring 25 may be formed from non-rusting metal, plastic, polycarbonate, ABS, or composites thereof which exhibit sufficient characteristics of strength and rigidity. The platform base 15 may be used with or without the insert 16 and with spacer ring 25 in place or detached, according to the size and shape of a furniture member supported by the platform 15, and as may best restrict lateral movement of the furniture.

1. An apparatus for supporting furniture comprising: a body consisting of a lower surface, a top surface with a receiving area upon which furniture members rest, and sides that extend between the lower surface and the top surface; a plurality of downward projecting stand-off screws that are attached to the body and are independently adjustable so as to allow the body to remain level on irregular, sloped, or carpeted surfaces; and holes in the body that mate to the plurality of downward projecting stand-off screws.

2. The apparatus of claim 1, wherein the receiving area further comprises multiple concentric and horizontal receiving surfaces for receiving furniture members.

3. The apparatus of claim 2, wherein each concentric and horizontal receiving surface is formed in a distinct horizontal plane at progressively greater depths in the body than the uppermost receiving surface thereby creating a tiered effect.

4. The apparatus of claim 3, wherein the tiered effect created by the horizontal receiving surfaces being formed at progressively greater depths in the body restrict lateral movement of furniture members placed on the apparatus.

5. The apparatus of claim 1, wherein uppermost receiving surface further comprises rectangular extensions arranged so as to allow "L" shaped and rectangular shaped furniture members to rest upon the uppermost receiving surface.

6. The apparatus of claim 1, wherein the holes in the body are threaded.

7. The apparatus of claim 6, wherein each of the downward projecting stand-off screws are comprised in part of a threaded upper shank that mates with the threaded holes in the body.

8. A furniture support apparatus with adjustable height features for providing level support of furniture on sloped, irregular, or carpeted surfaces comprising: an elevated platform with threaded holes to which a plurality of stand-off screws are mates; the elevated platform further comprising a receiving surface for receiving furniture; the stand-off screws comprising a threaded shank portion that mates with the threaded holes of the platform, the threaded shank portion having a recess that accepts a tool for height adjustment purposes, and a lower shank portion with a tip that rests upon floor surfaces; the elevated platform being formed of a rigid body with an upper surface that contains the receiving surface, sides, and a lower surface from which the plurality of stand-off screws extend.

9. The furniture support apparatus of claim 8, wherein the threaded holes extend through the rigid body of the platform.

10. The furniture support apparatus of claim 9, wherein the plurality of stand-off screws can be adjusted while mated to the threaded holes by inserting a wrench into the top of the threaded hole and down into the recess of the threaded shank portion of the stand-off screw.

11. The furniture support apparatus of claim 8, further comprising a plurality of non-threaded holes that extend through the rigid body of the platform that are used for facilitating the accurate positioning of the furniture support apparatus.
12. The furniture support apparatus of claim 8, wherein the tip of the lower shank portion is a chamfered distal tip.

13. The furniture support apparatus of claim 8, wherein each of the plurality of stand-off screws are independently adjustable.

14. A device for providing level support of furniture, the device comprising:
   a platform body, the platform body having a lower surface, sides, and an upper surface;
   the upper surface further comprising a removable insert with a detachable spacer ring that fits into a depression within the upper surface; the removable insert with detachable spacer ring forming a receiving area for receiving furniture; holes in the platform body to which a plurality of downward projecting stand-off screws are mated; each stand-off screw being independently adjustable so that the device can be used on carpeted, irregular, or sloped surfaces; and each stand-off having a tip that contacts a supporting surface.

15. The device of claim 14, wherein the plurality of downward projecting stand-off screws elevate the platform body to a height sufficient to minimize damage to carpet.

16. The device of claim 14, wherein the upper surface contains a uniplanar depressed circular surface with three rectangular extensions for receiving furniture.

17. The device of claim 16, wherein the removable insert and detachable spacer ring fit into the uniplanar depressed surface and three rectangular extensions.

18. The device of claim 16, wherein the three rectangular extensions are positioned in a 90 degree orientation from each other.

19. The device of claim 14, wherein the platform body, removable insert, and detachable spacer ring are formed from a non-rusting metal, plastic, polycarbonate, acrylonitrile butadiene styrene, or composite thereof.

20. The device of claim 14, wherein the tip of each stand-off screw is a chamfered distal tip.

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