April 9, 1963 J. W. SPISELMAN 3,084,911

ANTI-VIBRATION LOCK FOR PEDESTAL HEADS

Filed Oct. 18, 1960

FIG. 1

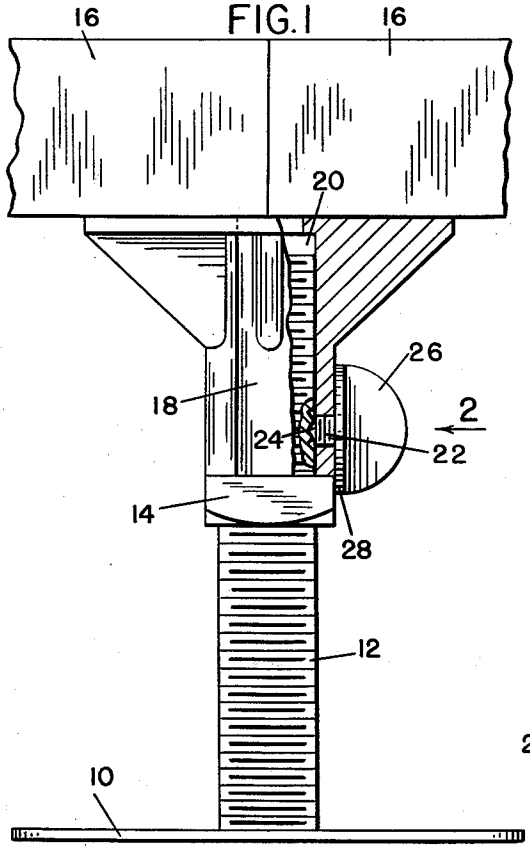


FIG. 2

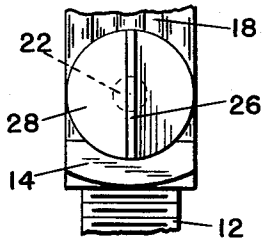


FIG. 3

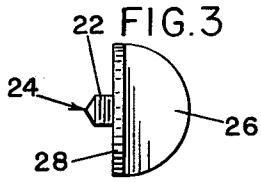


FIG. 4

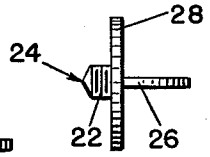


FIG. 5

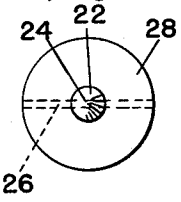


FIG. 6

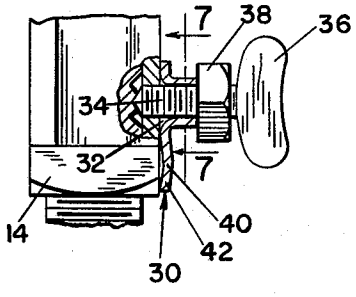


FIG. 7

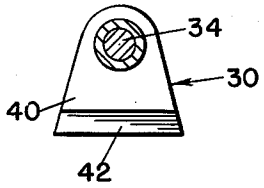
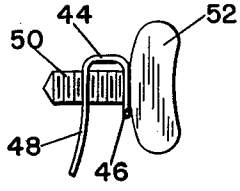


FIG. 8



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ANTI-VIBRATION LOCK FOR PEDESTAL HEADS

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This invention relates to a new and improved pedestal construction for elevated flooring and reference is made to Patent No. 2,830,332 having the same general objects of invention and providing removable sectional flooring particularly for use for electronic machine installations such as computators and the like.

The present invention has for its principal object the provision of a new and improved pedestal construction. In the usual pedestal construction, a threaded upright is provided on a sub-flooring and the head which directly supports the floor sections is placed over the top free end of this threaded upright, where it rests on a nut threaded onto the upright. By adjusting the nut, the head member for supporting the section is adjustable up-and-down. In this way the elevated flooring may be easily leveled, regardless of most irregularities in the sub-flooring.

However, it has been found that as heavy machinery is moved over the elevated flooring, and also where partitions are provided and repositioned, the nut has a tendency to turn in a direction to cause the section supporting heads to descend and thus a positive lock nut is used. It has been found, however, that lock nuts of any known kind are not practical for use in connection with this matter because of the fact that it is often difficult to unlock the nut when re-adjustment is required, and also the installation is difficult because ordinarily once the correct position of the head-supporting nut is found, the installer is very apt to overlook the necessity for applying the lock to the nut.

For the above reasons, this invention provides an extremely simple and useful double-purpose, easily applied fixture which prevents the nut when once set from turning in either direction and which also locks the head to the threaded upright or standard; and furthermore the construction of the invention in this case is such that when the head-supporting nut tends to turn, as described above, this tendency results in a camming and further tightening of the device which secures the head to the threaded upright standard even more positively.

The invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly set forth in the appended claims.

Reference is to be had to the accompanying drawings, in which

FIG. 1 is a view in elevation illustrating the invention, parts being broken away and in section;

FIG. 2 is a view in elevation, looking in the direction of arrow 2 in FIG. 1, with parts broken away;

FIGS. 3, 4 and 5 are detail views illustrating the invention;

FIG. 6 is a view similar to FIG. 1 but showing a modification;

FIG. 7 is a section on line 7—7 of FIG. 6; and

FIG. 8 is an elevational view showing another modification.

Referring now to FIGS. 1 and 2, the reference numeral 10 indicates a base plate which is adapted to be mounted directly on the sub-flooring, and of course it is to be understood that this sub-flooring being already in existence and in many cases quite old, is variable and does not present a completely flat surface. The plate 10 is provided with an upstanding threaded member 12 which in

this case is solid and on it and meshed therewith is a nut 14 which may be square or hex.

The elevated flooring sections are shown at 16, 16 and these are mounted upon a head 18, the exact construction of which is not pertinent to the present invention except insofar as it provides a downwardly opening central hollow portion 20 which fits over the top free end of the threaded member 12 as clearly shown. The exact position of elevation of this member is determined by the position of the nut, the lower end of head 18 bearing on the top surface of the nut. The sections 16 are mounted and supported on the head and when it is desired to vary the vertical position of this particular support, the nut is turned in either direction to raise or lower it.

However, with the parts in position as described, repeated vibration on the floor 16 causes nut 14 to turn in a direction to descend on the threaded member 12, and this of course allows the head 18 to also descend to like degree.

Now the present invention comprises a kind of a thumb-nut which has a relatively short threaded portion 22 and a relatively sharp point at 24 to fit into the threads on the member 12 as clearly shown in FIG. 1. This threaded member 22 terminates in a relatively broad finger-hold 26 by which it is applied through a tapped hole in the side of the head 18 as shown. The member 26 is separated from the threaded portion 22 by means of a circular or similarly shaped plate 28.

In the operation of the device, when the nut 14 is in the desired position, the installer merely inserts the threaded end 22 of the device into the tapped hole in the head 18 and turns until the same is tight with the point 24 engaged in the threads of the member 12. This locks head 18 to standard 12 but does not give it any appreciable vertical load support which is derived from the nut 14.

The flange or circular member 28 overlaps a side surface of the nut. If the nut 14 should tend to turn under vibration, the member 28 clearly prevents any but the slightest rotary motion, and as a corner of the nut comes into closer contact with member 28, the latter becomes cammed or wedged, jamming the screw and forming an even tighter connection than before. As a matter of fact, looking at FIG. 2 it will be seen that there is an actual tendency for the device to rotate in a clockwise direction, when the nut tends to turn, and this action tends to tighten the threaded portion 22 against the threads of the upright standard 12. Even if member 28 is not integral with member 22 and member 26, and is loosely arranged over member 22 as a large washer, the rotary motion of nut 14 is constrained and the tightening effect described takes place.

It will thus be seen that this invention provides for at least two functions. It secures the head 18 to the standard 12 and it prevents the nut 14 from rotating. It is extremely easily applied in any position of the nut 14 and has a self-tightening feature due to vibration on head 18 as explained above in attempting to turn nut 14 downwardly which would be in a direction to cause the circular member 28 to be turned in a direction to tighten the screw 22.

Referring now to FIGS. 6 and 7, there is seen a generally keystone-shaped member which is indicated by the reference numeral 30. Referring to FIG. 6 particularly, it will be seen that the member 30 has an aperture therein 32 for the generally loose reception of a screw-threaded member 34 which is generally the same as that at 22. The screw-threaded member 34 has a fingerhold 36 by which it is turned and an abutment 38 which may be a nut to impinge upon the side surface of the member 30, causing the same to more or less engage the nut 14 as

above described in the event that the members 30 and 34 should be substituted for that shown in FIG. 1 at 22, 26, etc. The downwardly extending portion 40 of member 30 performs the function of the circular flange member 28 and the weight thereof will cause it to depend so as to engage the nut. This modification of the invention illustrates the fact that the screw-threaded portion 34 may be loose from the vibration lock member 30, and not formed as an integral part. The aperture 32 may be flanged as shown in FIG. 6. Member 40 has an inwardly turned portion preferably at 42 so as to better engage the nut in spite of the fact that it dangles loose from screw 34.

Turning now to FIG. 8 there is a similar modification shown but in this case there is a resilient stop for the nut and thumbhold. This is provided as at 44 by merely extending the member 30 of FIG. 6 and bending it around in spaced relationship as at 46 from the main body member 48. The threaded member 50 is similar to that at 34 as handle 52 is similar to that at 36.

It will be seen that by a very simple means the objects of the invention in this case are carried out. The pedestal head is adjustably supported on the nut and the nut is prevented from turning in either direction but particularly in a downward direction. Any tendency of this nut to turn will jamb the fixture in such a way as to tighten the same in its position, and therefore a permanent adjustment is made. However, this adjustment is easily re-adjusted when, as and if desired by merely backing off the screw 22 and then turning the nut to the desired new location, again applying the screw to finger-strength tightness in the pedestal head. Also the action is the same whether the threaded member 12 is a solid standard or a pipe, and whether the nut 14 be a square nut or a hex nut or other similar threaded member.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. A pedestal construction for elevated sectional flooring comprising a pedestal member, a head member adapted to be mounted on the pedestal member, adjustable supporting means on the pedestal member for directly supporting the head member, said adjustable supporting means being movable along the pedestal to hold the head member at a predetermined position with respect thereto, means on the head member directly securing the same to the pedestal above the supporting means and means depending from the means on the head member and contiguous with said supporting means on the pedestal preventing accidental adjustment of the supporting means.

2. A pedestal construction for elevated sectional flooring comprising an upright free-ended pedestal member, a head member adapted to be loosely mounted on the pedestal member at the upper end of the latter, adjustable supporting means operatively associated with the pedestal member for directly supporting the head member, said adjustable supporting means being movable along the pedestal to hold the head member at an adjusted vertical position with respect thereto, and means on the head member directly securing the same to the pedestal, the last-named means including an element contiguous with said supporting means on the pedestal preventing accidental adjustment of the supporting means.

3. A device of the class described comprising a pedestal, a flat-sided nut threaded on said pedestal for adjustment therealong, a floor section supporting head adapted to be received on said pedestal and resting on a surface of the nut, the nut being adjustable to adjust the head relative to the pedestal, and means on said head directly

engageable with said pedestal and including an element extending into a close relationship with respect to the flats of the nut, preventing accidental turning of the nut.

4. The device of claim 3 wherein said means comprises a member extending through a part of the head into engagement with the pedestal, said element extending past the portion of said head resting on the nut and into the area of the nut.

5. The device of the class described in claim 3 wherein said means comprises a threaded member extending through a wall of the head and engageable at its inner end with the pedestal, a fingerhold on the outer end of said member, said element forming a portion of the fingerhold.

6. The device of the class described in claim 3 wherein said means comprises a threaded member extending through a wall of the head and engageable at its inner end with the pedestal, a fingerhold on the outer end of said member, said element comprising a washer-like element fixed with relation to said threaded member.

7. The device of the class described in claim 3 wherein said means comprises a threaded member extending through a wall of the head and engageable at its inner end with the pedestal, a fingerhold on the outer end of said member, said element being loosely mounted on said threaded member.

8. A pedestal construction for elevated flooring comprising a generally upright threaded pedestal member, a nut having a flat side threaded thereon, a head having a recess therein receivable over the upper end of the pedestal member, said head having a surface resting on the nut so that the head is vertically adjustable as the nut is turned, a head-locking member extending through a wall of said head into the recess and engaging the pedestal, and a relatively wide nut-locking member on the head-locking member, said nut-locking member extending into the region of the flat side of the nut and holding the same against accidental turning.

9. A pedestal construction for elevated flooring comprising a generally upright threaded pedestal member, a nut having a flat side threaded thereon, a head having a recess therein receivable over the upper end of the pedestal member, said head having a surface resting on the nut so that the head is vertically adjustable as the nut is turned, a head-locking member extending through a wall of said head into the recess and engaging the pedestal, and a relatively wide nut-locking member on the head-locking member, said nut-locking member extending into the region of the flat side of the nut and holding the same against accidental turning, said head-locking member being threaded and having a pointed inner end for engagement in the threads of the pedestal.

10. The device of claim 8 wherein said nut-locking member is circular.

11. The device of claim 8 wherein said nut-locking member is non-circular.

12. The device of claim 8 wherein said nut-locking member is loosely mounted on the head-locking member and has a major portion thereof located at one side of said head-locking member to depend therefrom.

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