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(54) **INSECT INFESTATION REDUCTION METHOD**

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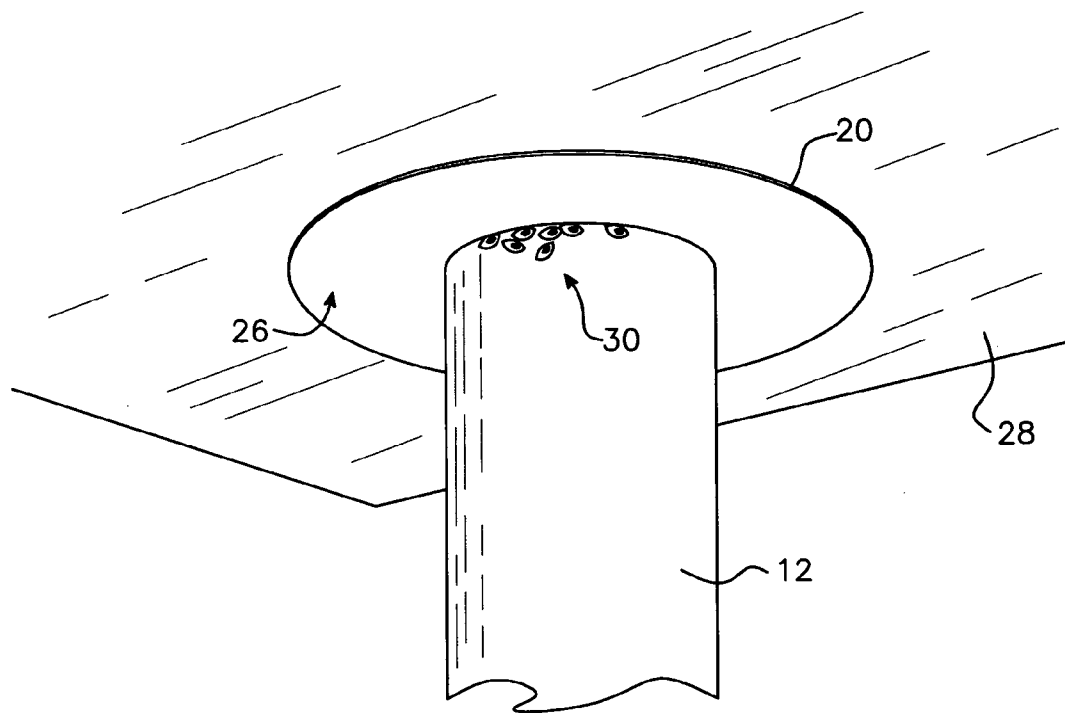
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(57) **ABSTRACT**

A method of preventing infestation of a bed by creeping insects; said method including the application of a barrier to the legs of said bed; said barrier comprising a disc or layer of material inimical to at least a selection of said creeping insects; said disc or layer interposed between an upper end of each bed leg and the underside surface of a bed base of said bed.

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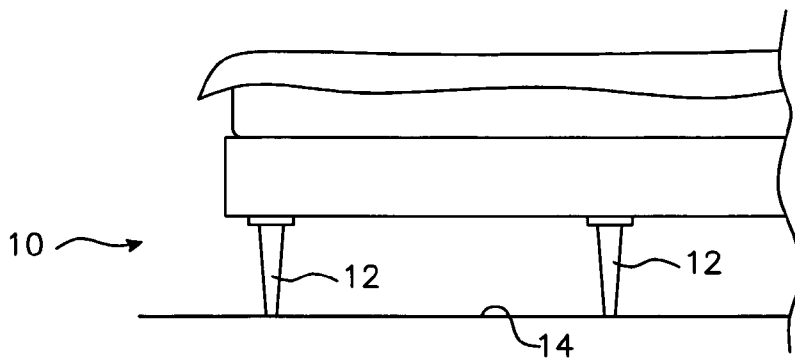


Fig. 1

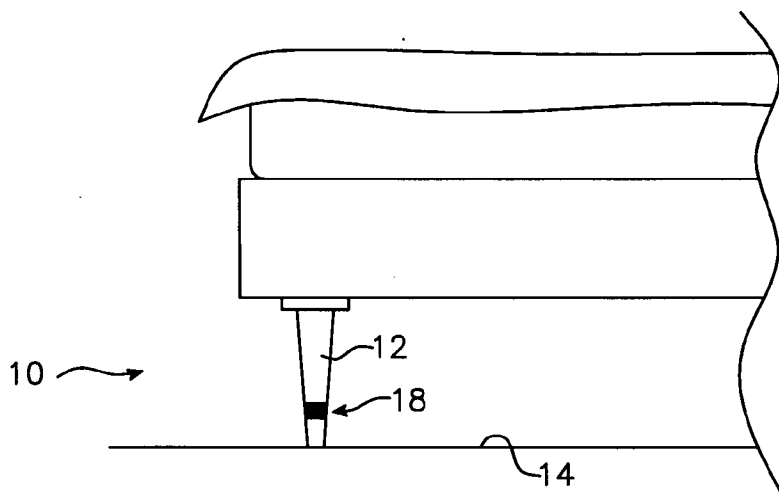


Fig. 2

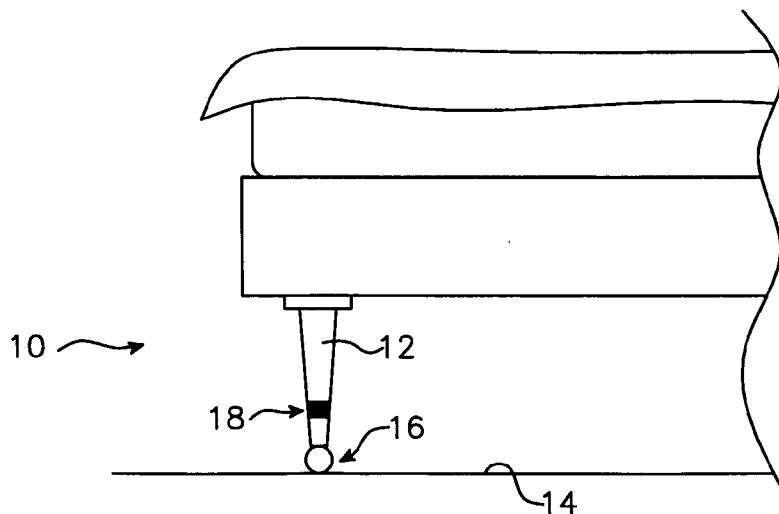


Fig. 3

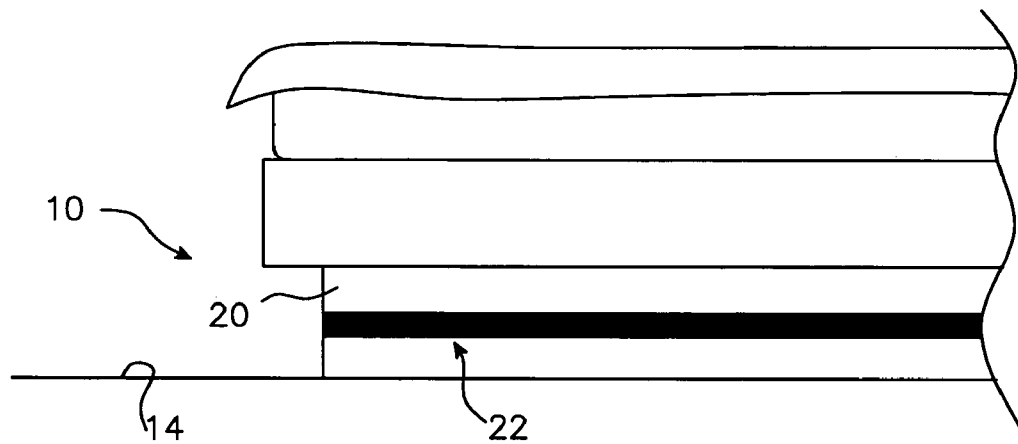


Fig. 4

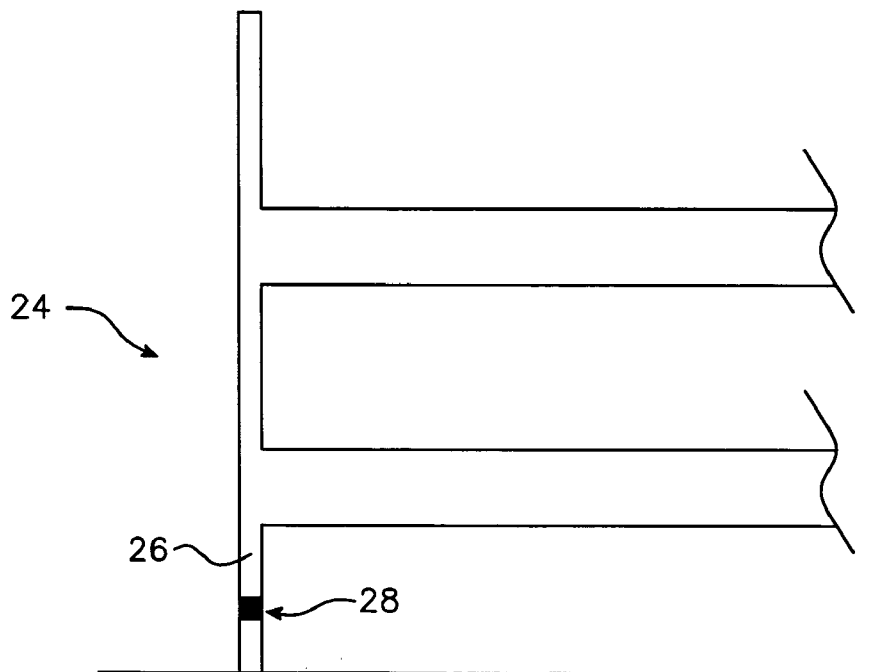


Fig. 5

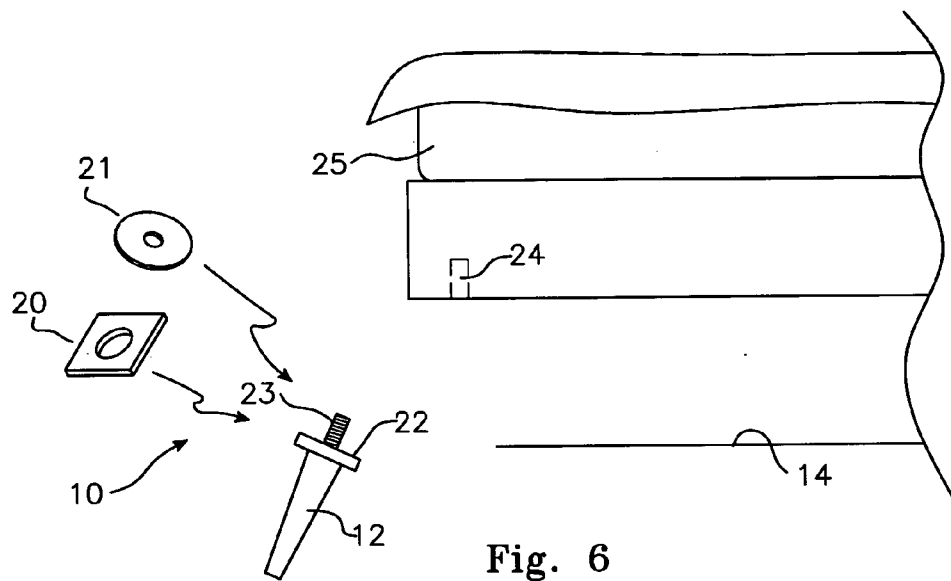


Fig. 6

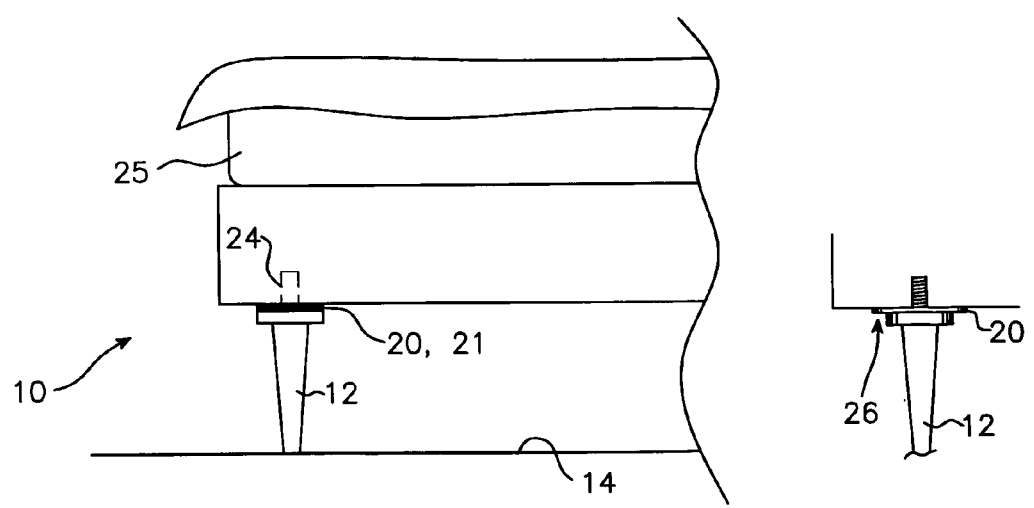


Fig. 7

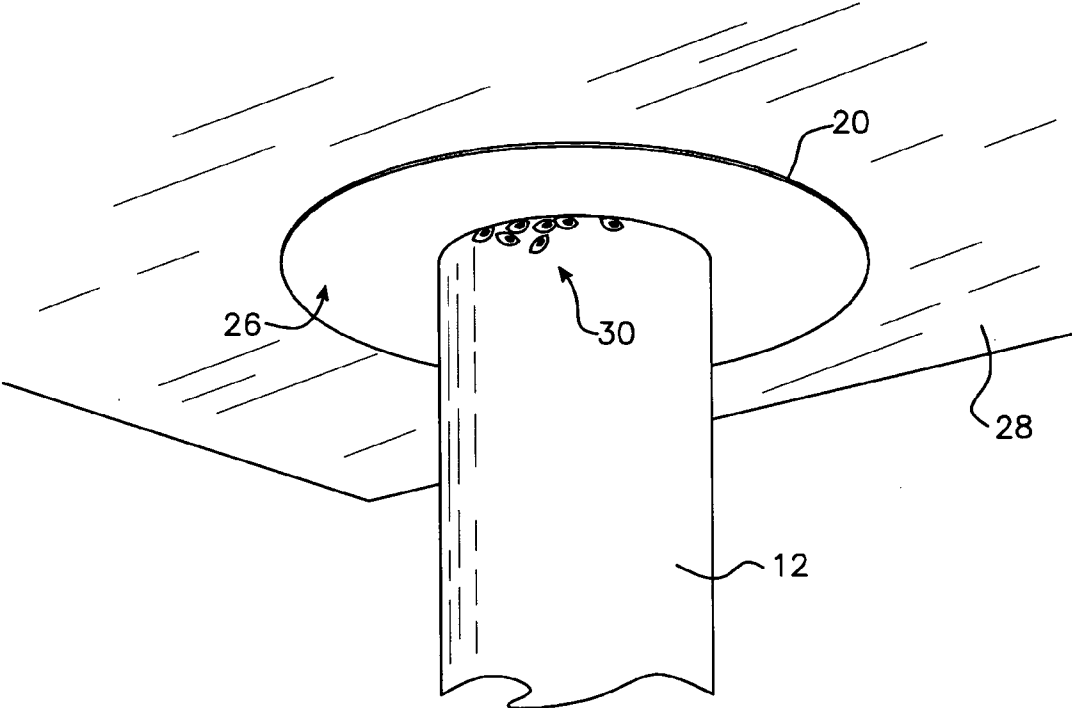


Fig. 8

Date Read	Adult		Nymph					Total
	Female	Male	1	2	3	4	5	
4-Feb-10	74	69	224	94	18	10	16	602
5-Feb-10	1	2	47	9	2	0	1	62
6-Feb-10	0	1	2	0	0	0	0	3
7-Feb-10	0	4	6	1	0	0	1	12
8-Feb-10	0	1	6	0	0	0	1	8
9-Feb-10	0	2	2	1	0	1	0	6
10-Feb-10	0	0	0	0	0	0	0	0
Total	75	79	287	105	18	11	18	693
Non-breach	0	3	19	0	1	1	1	25
Grand Total	75	82	308	105	19	12	18	618

Table A

Date Read	Adult		Nymph					Total
	Female	Male	1	2	3	4	5	
4-Feb-10	0	0	0	0	0	0	0	0
5-Feb-10	0	0	0	0	0	0	0	0
6-Feb-10	0	0	0	0	0	0	0	0
7-Feb-10	0	0	0	0	0	0	0	0
8-Feb-10	0	0	0	0	0	0	0	0
9-Feb-10	0	0	0	0	0	0	0	0
10-Feb-10	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Non-breach	72	85	281	78	25	15	28	584
Grand Total	72	85	281	78	25	15	28	584

Table B

Fig 9

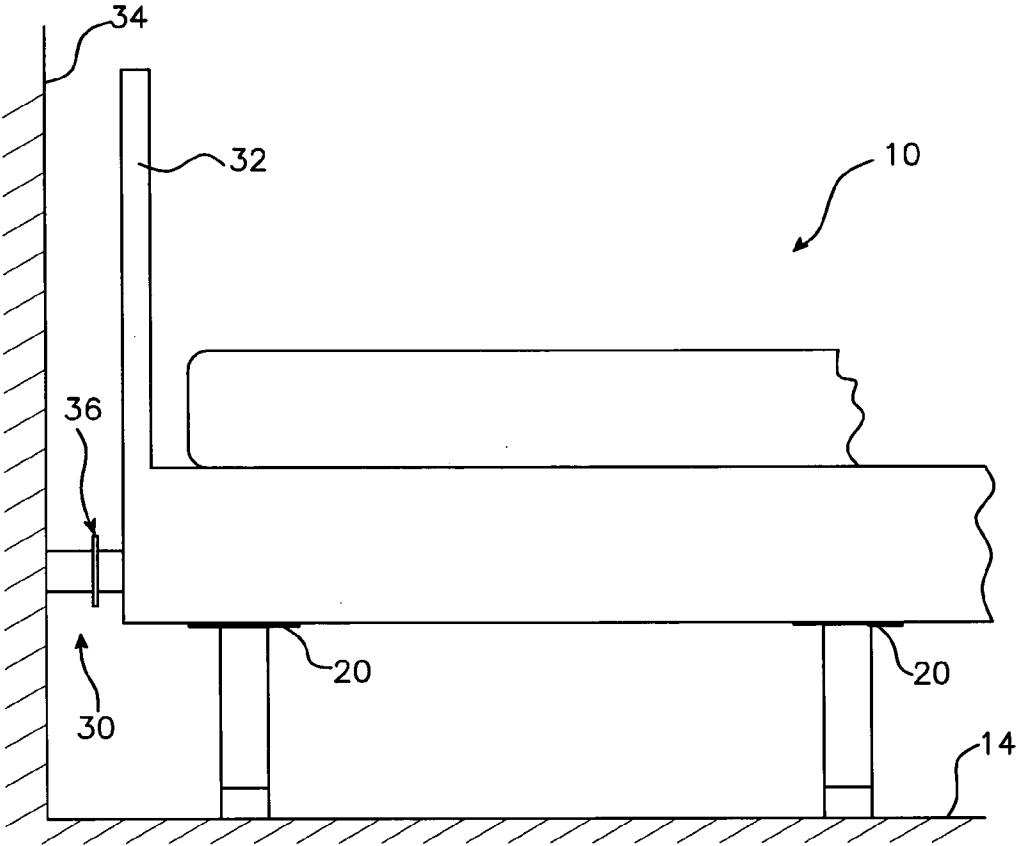


Fig. 10

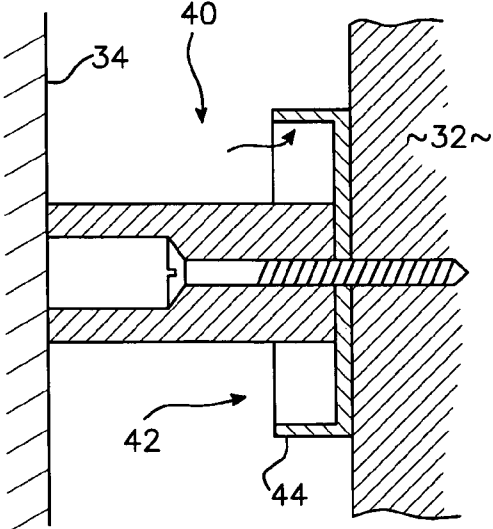


Fig. 11

## INSECT INFESTATION REDUCTION METHOD

**[0001]** The present invention relates to pest control and, more particularly, to bed bug and other creeping insect infestation minimisation technology.

### BACKGROUND

**[0002]** One example of an insect likely to infest is the common bed bug, (*Cimex lectularius*), a small insect, adults growing to 4-8 mm, found throughout the temperate world. It feeds on blood and is well adapted to cohabitation with humans, particularly preferring to infest bedding.

**[0003]** Infestation is a particular problem in those facilities catering to revolving clientele, such as hotels, guest houses, backpacker hostels and other forms of guest accommodation, but can also become a serious problem in the home.

**[0004]** Infestation of a bed may occur in at least two ways. Firstly, bugs may be introduced into the bed from luggage, contaminated clothing or even from, human carriers. Secondly, bugs may initially be present in carpets or rugs and thence find their way into the bed by crawling up the bed supporting structure.

**[0005]** Although infestation by bed bugs is perhaps the most common problem, it is clearly undesirable to have one's bed invaded by any creeping insects.

**[0006]** Long U.S. Pat. No. 5,566,500 to Consep, Inc published 22 Oct. 1996 contains a general proposition that Teflon (Dupont's trademark for polytetrafluoroethylene (PTFE)) has been known to act as a barrier to bugs (crawling insects) in laboratory environments.

**[0007]** It proposes that not just any form of PTFE will do for an effective commercial application of the general proposition and provides examples where it argues that PTFE will not work as a barrier to crawling insects.

**[0008]** It is an object of the present invention to address or least ameliorate the problem of insect infestation routes.

### Notes

**[0009]** 1. The term "comprising" (and grammatical variations thereof) is used in this specification in the inclusive sense of "having" or "including", and not in the exclusive sense of "consisting only of".

**[0010]** 2. The above discussion of the prior art in the Background of the invention, is not an admission that any information discussed therein is citable prior art or part of the common general knowledge of persons skilled in the art in any country.

### BRIEF DESCRIPTION OF INVENTION

**[0011]** Accordingly in one broad form of the invention there is provided a method of preventing infestation of a bed by creeping insects; said method including the application of a barrier to the legs of said bed; said barrier comprising a relatively thin disc or layer of material inimical to at least a selection of said creeping insects; said disc or layer interposed between an upper end of each bed leg and the underside surface of a bed base of said bed.

**[0012]** Preferably said disc or layer has a low coefficient of friction surface; said surface having properties preventing a creeping insect traversing a substantially horizontal underside of said disc or layer.

**[0013]** Preferably said properties include a low coefficient of friction and resistance to van der Waal forces.

**[0014]** Preferably said low coefficient of friction of said surface is a dynamic coefficient of friction less than 0.4.

**[0015]** Preferably said disc or layer is composed of polytetrafluoroethylene or similar compounds; such compounds commonly known as Teflon®.

**[0016]** Preferably said disc or layer is sized so as to extend beyond the periphery of an upper end of said bed leg; an extended portion of said disc or layer forming substantially horizontal annular underside surface between said periphery and said bed base.

**[0017]** Preferably said extended portion extends radially at least 15 mm from said periphery.

**[0018]** Preferably said disc or layer is provided with a central aperture; said aperture sized so as to allow passage there-through, of a securing bolt of said bed leg.

**[0019]** In a further broad form of the invention there is provided a method of reducing infestation of a bed by climbing insects; said method, including interposing insect impeding barriers in the form of a relatively thin disc or layer of material inimical to at least a selection of said creeping insects at supporting elements of said bed; said method including the steps of:

**[0020]** a. detaching each supporting element of said bed;

**[0021]** b. applying said insect impeding barrier to an upper end of said supporting element;

**[0022]** c. re-attaching said supporting elements to said bed such that said barrier is interposed between said upper end of said supporting element and an underside of said bed.

**[0023]** Preferably said supporting element is a bed leg; said bed leg attaching to an underside of a bed base of said bed by a length of threaded rod projecting from said upper end of said bed leg.

**[0024]** Preferably said barrier is formed as a disc or layer of low friction material.

**[0025]** Preferably said disc or layer is sized to project radially from a periphery of said bed leg so as to expose an annular surface of said low friction material forming a substantially horizontal underside surface between a periphery of said bed leg and said underside of said bed.

**[0026]** Preferably said disc or layer extends radially from said periphery by at least 15 mm.

**[0027]** Preferably said disc or layer extends radially from said periphery by between 10 and 20 mm.

**[0028]** Preferably said method includes the further steps of interposing offset blocks between a bed head of said bed and an adjacent wall; said offset blocks including an insect impeding barrier.

**[0029]** Preferably said insect impeding barrier includes application of a low coefficient of friction tape to surfaces of said offset blocks; said offset blocks configured so as to present one or more upwardly sloping upper surface only, between said bed head and said adjacent wall.

**[0030]** Preferably said insect impeding barrier includes a ring of low coefficient of friction material; said ring of material including vertical surfaces projecting radially from surfaces of said offset blocks.

**[0031]** In a further broad form of the invention there is provided a method of preventing infestation by creeping insects of a bed or other elevated structure; said method including the application of a barrier to the legs or substructure of said bed or other elevated structure; said barrier com-



prising a band of a material inimical to at least a selected group of said creeping insects.

**[0032]** Preferably said band of material is treated with a compound; said compound having properties repulsive to at least a group of said creeping insects.

**[0033]** Preferably said compound is a marine anti-fouling paint.

**[0034]** Preferably said barrier is in the form of a gasket or washer.

**[0035]** Preferably said gasket or washer is formed of a porous material; said compound impregnated into said porous material.

**[0036]** Preferably said barrier is interposed between an upper end of a bed leg and an underside of a bed base.

**[0037]** Preferably said barrier extends vertically for between 10 and 20 mm.

**[0038]** In yet a further, broad form of the invention there is provided a relatively thin disc or layer of material for interposing between an upper portion of a bed leg and the underside of a bed base; said disc or layer of material inimical to traversing by bed bugs and other creeping insects; said disc or layer of material sized so as to project radially beyond the periphery of said upper portion of said bed leg thereby presenting an exposed substantially horizontal underside, annular portion, of said material.

**[0039]** Preferably said disc or layer is provided as a kit of a number of discs and layers sufficient for retro-fitting to legs of a bed.

**[0040]** Preferably each said disc or layer of said kit is provided with a central aperture for placement of said disc or layer over a central securing bolt of a said bed leg.

**[0041]** In yet a further broad form of the invention there is provided a kit for providing protection of infestation of a bed by bed bugs and other climbing insets; said kit comprising packaging containing a number of relatively thin discs or layers of a low coefficient of friction material; said discs or layers adapted for interposing between upper portions of bed legs and the underside of a bed base of said bed.

**[0042]** In yet a further broad form of the invention there is provided a bed proofed against infestation by bed bugs and other climbing insects; said bed provided with barriers comprising a relatively thin disc or layer or an offset block preventing access to mattress and bedding of said bed; said barriers including surfaces of low coefficient of friction material; said barriers interposed between an upper portion of legs of said bed and the underside of the bed base.

**[0043]** Preferably said barriers further include offset blocks between a bed head of said bed and an adjacent wall; said offset blocks including surfaces of said low coefficient of friction material.

**[0044]** In yet a further broad form of the invention there is provided a method of preventing infestation of a bed by creeping insects; said method including the application of a barrier to the legs of said bed; said barrier comprising a disc or layer of material made from a low co-efficient of friction material inimical to at least a selection of said creeping insects; said disc or layer interposed between an upper end of each bed leg and the underside surface of a bed base of said bed.

**[0045]** Preferably said disc or layer has a low coefficient of friction surface; said surface having properties preventing a creeping insect traversing a substantially horizontal underside of said disc or layer.

**[0046]** Preferably said properties include a low coefficient of friction and resistance to van der Waal forces.

**[0047]** Preferably said low coefficient of friction of said surface is a dynamic coefficient of friction less than 0.4.

**[0048]** Preferably said disc or layer is composed of polytetrafluoroethylene or similar compounds; such compounds commonly known as Teflon®.

**[0049]** Preferably said disc or layer is sized so as to extend beyond the periphery of an upper end of said bed leg; an extended portion of said disc or layer forming a substantially horizontal annular underside surface between said periphery and said bed base.

**[0050]** Preferably said extended portion extends radially at least 15 mm from said periphery.

**[0051]** Preferably said disc or layer is provided with a central aperture; said aperture sized so as to allow passage there-through of a securing bolt of said bed leg.

**[0052]** In yet a further broad form of the invention there is provided a method of reducing infestation of a bed by climbing insects; said method including interposing insect impeding barriers at supporting elements of said bed; said barriers made from a low co-efficient of friction material; said method including the steps of:

**[0053]** a. detaching each supporting element of said bed;

**[0054]** b. applying said insect impeding barrier to an upper end of said supporting element;

**[0055]** c. re-attaching said supporting elements to said bed such that said barrier is interposed between said upper end of said supporting element and an underside of said bed.

**[0056]** Preferably said supporting element is a bed leg; said bed leg attaching to an underside of a bed base of said bed by a length of threaded rod projecting from said upper end of said bed leg.

**[0057]** Preferably said barrier is formed as a disc or layer of low friction material.

**[0058]** Preferably said disc or layer is sized to project radially from a periphery of said bed leg so as to expose an annular surface of said low friction material forming a substantially horizontal underside surface between a periphery of said bed leg and said underside of said bed.

**[0059]** Preferably said disc or layer extends radially from said periphery by at least 15 mm.

**[0060]** Preferably said disc or layer extends radially from said periphery by between 10 and 20 mm.

**[0061]** Preferably said method includes the further steps of interposing offset blocks between a bed head of said bed and an adjacent said offset blocks including insect impeding barrier.

**[0062]** Preferably said insect impeding barrier includes application of a low coefficient of friction tape to surfaces of said offset blocks; said offset blocks configured so as to present one or more upwardly sloping upper surface only, between said bed head and said adjacent wall.

**[0063]** Preferably said insect impeding barrier includes a ring of low coefficient of friction material; said ring of material including vertical surfaces projecting radially from surfaces of said offset blocks.

**[0064]** In yet a further broad form of the invention there is provided a method of preventing infestation by creeping insects of a bed or other elevated structure; said method including the application of a barrier to the legs or substructure of said bed or other elevated structure; said barrier com-

prising a band of a material inimical to at least a selected group of said creeping insects.

[0065] Preferably said band of material is treated with a compound; said compound having properties repulsive to at least a group of said creeping insects.

[0066] Preferably said compound is a marine anti-fouling paint.

[0067] Preferably said barrier is in the form of a gasket or washer.

[0068] Preferably said gasket or washer is formed of a porous material; said compound impregnated into said porous material.

[0069] Preferably said barrier is interposed between an upper end of a bed leg and an underside of a bed base.

[0070] Preferably said barrier extends vertically for between 10 and 20 mm.

[0071] In yet a further broad form of the invention there is provided a disc or layer of material for interposing between an upper portion of a bed leg and the underside of a bed base; said disc or layer of material inimical to traversing by bed bugs and other creeping insects; said disc or layer of material sized so as to project radially beyond the periphery of said upper portion of said bed leg thereby presenting an exposed substantially horizontal underside, annular portion, of said material; said material made from a low co-efficient of friction material.

[0072] Preferably said disc or layer is provided as a kit of a number of discs and layers sufficient for retro-fitting to legs of a bed.

[0073] Preferably each said disc or layer of said kit is provided with a central aperture for placement of said disc or layer over a central securing bolt of a said bed leg.

[0074] In yet a further broad form of the invention there is provided a kit for providing protection of infestation of a bed by bed bugs and other climbing insets; said kit comprising packaging containing a number of discs or layers made of a low coefficient of friction material; said discs or layers adapted for interposing between upper portions of bed legs and the underside of a bed base of said bed.

[0075] In yet a further broad form of the invention there is provided a bed proofed against infestation by bed bugs and other climbing insects; said bed provided with barriers preventing access to mattress and bedding of said bed; said barriers made from a low co-efficient of friction material or said barriers including surfaces of low coefficient of friction material; said barriers interposed between an upper portion of legs of said bed and the underside of the bed base.

[0076] Preferably said barriers further include offset blocks between a bed head of said bed and an adjacent wall; said offset blocks including surfaces of said low coefficient of friction material.

#### BRIEF DESCRIPTION OF DRAWINGS

[0077] Embodiments of the present invention will now be described with reference, to the accompanying drawings wherein:

[0078] FIG. 1 is a side view of typical support structure of a bed base,

[0079] FIG. 2 is a side view of the support structure of FIG. 1 to which a preferred arrangement of the bed bug reduction method of the invention has been applied,

[0080] FIG. 3 is a side view of a support structure with castor when fitted with a castor and provided with the arrangement of the bed bug reduction method of FIG. 2,

[0081] FIG. 4 is a side view of a portion of another typical support structure of a bed provided with the bed bug reduction method of the invention,

[0082] FIG. 5 is a side view of the framing of a bunk bed provided with the bed bug reduction method of the invention.

[0083] FIG. 6 is a side view of the method of installation according to a further, embodiment of the present invention.

[0084] FIG. 7 is a side view of the bed after installation according to the method illustrated in FIG. 6,

[0085] FIG. 8 is a perspective view of an experimental installation showing a further embodiment under test conditions,

[0086] FIG. 9 shows tables summarizing results of the experiments of FIG. 8,

[0087] FIG. 10 shows a further embodiment of a bed bug reduction method according to the invention installed between a bed head and adjacent wall,

[0088] FIG. 11 shows a further embodiment of a bed bug barrier installed between a bed head and adjacent wall.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0089] The present invention seeks to reduce the incidence of bed bug and other creeping insect infestation of beds by substantially eliminating one route by which creeping insects can gain access to a bed, or other elevated structure from a supporting ground surface.

[0090] With reference to FIGS. 1 and 2, bed bases 10 and other structures are frequently supported by four or more legs 12 resting directly on the floor 14 or the legs may be mounted on castors 16 as shown in FIG. 3. Typically, legs are manufactured of some suitable material such a wood, which although apparently smooth, provide ample purchase to bed bugs, which are excellent climbers, as are most other creeping insects. Nor do castors, typically formed of plastic or metal and plastic assemblies, provide any barrier to a bed bug or other creeping insect.

[0091] The present invention resides in the provision of a barrier of the type described in the following embodiments located along the substantially vertical surfaces of supporting structures of bed bases and other elevated structures.

#### First Preferred Embodiment

[0092] It has been found, that some materials with sufficiently low coefficient of friction and resistance to van der Waal forces, when forming a substantially vertical surface, provide an effective barrier to climbing insects. Such materials include polytetrafluoroethylene or similar PTFE compounds such as that commonly known as Teflon® by the American chemical manufacturer Dupont. Depending on the particular grade and compound this material has a coefficient of friction of around 0.4.

[0093] In this first preferred embodiment, the present invention provides a method of creeping insect infestation reduction by the application of a low coefficient of friction material to the substantially vertical surfaces of the support structures of beds as a film or as an integral composition or as band. Preferably, the dynamic coefficient of friction of the material is less than 0.4. he method described in this specification refers to the use of Teflon® but it will be understood that any material, with a coefficient of friction sufficiently low so as to deny purchase to a climbing creeping insects, is envisaged in the invention.

[0094] Referring again to FIGS. 2 and 3, it can be seen that at least a portion of the leg 12 has been provided with an annular coating 18 in the form of a film of Teflon® extending a sufficient distance up the leg to provide a barrier. The extent of the coating is preferably at least 10 mm, but more preferably is not less than 25 mm.

[0095] Teflon may be applied as a film of material, or in another arrangement, at least a portion of the leg could be manufactured from Teflon® itself, for example in the form of “feet” affixed at the lower end of the leg.

[0096] FIG. 4 shows another support structure for a bed base, in this case a perimeter frame 20 resting directly on the floor. In this situation, a band 22 of Teflon® material may be applied right around the frame to deny access to creeping insects.

[0097] FIG. 5 shows a portion of a bunk bed, the framing 24 of which typically is also in direct contact with the floor. In this instance the prevention method of the invention is similar to that applied to the leg shown in FIG. 2, that is by applying a band 28 of Teflon® to at least a portion of each of the vertical frame members 26 of the bunk bed. Alternatively, as described above, Teflon® “feet” could be fitted at the base of each of the vertical frame members.

#### Second Preferred Embodiment

[0098] With reference to FIGS. 6 and 7 there is illustrated a further methodology in accordance with a further preferred embodiment of the present invention. Like components are numbered as for the earlier embodiment.

[0099] In this instance; the methodology for interrupting the route by which creeping insects can gain access to a bed or other elevated structure by means of its supporting legs or substructure is by way of interposing a barrier in this instance in the form of a gasket 20 or washer 21 in the form of a relatively thin disc or layer.

[0100] In the preferred methodology the gasket 20 or washer is treated with or made from Teflon, or similar low coefficient of friction material, and is preferably interposed along the route as a barrier. The steps of installation of the barrier, for example in the case of a bed supported on legs, include unscrewing the leg 12, placing the gasket 20 or washer 21 on the upper surface 22 of leg 12 around a length of threaded rod 23 projecting from the leg, reinstalling the leg 21 by screwing threaded rod 23 into a threaded recess 24, thereby to arrive at the arrangement shown in FIG. 7. By this arrangement the washer 21 or gasket 20 provides a barrier entirely across the route which a creeping insect might take from surface 14 via exterior of leg 12 to the mattress 25.

[0101] By this arrangement, broadly speaking, there is disclosed the use of a barrier in the form of a relatively thin disc or layer treated with (or made entirely from) Teflon® or similar low co-efficient of friction material interposed between the floor and bed for the purposes of preventing or at least minimising the possibility of creeping insects from climbing from the floor to the bed or bedding. In the preferred form the barrier is arranged, as much as possible, to appear as part of the leg assembly so that it is not visually displeasing.

[0102] A very low coefficient material clearly has maximum effect if applied to a vertical surface.

#### Third Preferred Embodiment

[0103] It will also be readily understood that a low friction surface may provide an even greater impediment to a crawl-

ing insect if that surface has significant negative slope, with the maximum effect achieved if the surface is a substantially horizontal underside. Thus in one preferred form of the relatively thin gasket or washer treated with or made from Teflon or similar low co-efficient of friction material shown in FIG. 7, the washer extends beyond the section of the leg to which it is applied as shown in FIG. 7A, thus creating an exposed annular, substantially horizontal, underside surface 26 as well as a further substantially vertical surface.

[0104] In a particularly preferred arrangement shown in FIG. 8, the barrier fitted to a leg of a bed, may be comprised of a relatively thin disc or layer 20 of low friction material with a diameter, or in extent, significantly larger than the diameter or area of the upper end of leg 12. As previously described, the disc or layer is provided with a central aperture of sufficient diameter to allow passage of the leg securing bolt, (as illustrated in FIG. 6), so that when the leg 12 is re-assembled to the bed, the disc or layer 20 is secured against the underside of the bed base 28.

[0105] Experiments have shown that the arrangement shown in FIG. 8 is one hundred percent effective in preventing bed bugs from traversing the disc 20 and gaining access to a bed base 28. The experiments included a typical bed base platform 28 of pressed timber construction, to which were attached a first group of bed legs 12 in the normal manner (the controls), and a second group of bed legs provided with the discs as shown in FIG. 8. A heat source, similar in heat output to that of a human body, was placed on the platform.

[0106] Each of the groups of legs were variously provided with a source of bed bugs, including one source each of adult male and female bugs, and five of nymph bugs.

[0107] Table A of FIG. 9 shows the result of bed bug infestation in the absence of protective barriers over a period of one week. It is clear that virtually all the bugs reached the bed base, within the first two days of the experiment. In stark contrast, as shown, in Table B, not one of the bugs was able to traverse the low friction material disc barrier 20. As illustrated in FIG. 8, bed bugs in the second group ascended the bed leg 12, but were unable to make the transition from the relatively rough vertical surface of the leg onto the low friction horizontal surface 26 of the disc 20, which in the experiment were made of Teflon®.

[0108] It appears from the above described experiment that any extension of the barrier, in the form of a disc, beyond the periphery of the bed leg, significantly wider than the length of the insects to be repelled, will prevent infestation. Preferably the projection of the disc beyond the periphery of the leg should be at least three insect lengths and thus preferably at least 15 mm for bed bugs.

[0109] Although the experiment was conducted with round bed legs and appropriately shaped disc barriers, it will be understood that the principles of the barrier may be equally well implemented with squares of the barrier material as long as the projection of the material beyond the leg periphery is sufficient.

#### Fourth Embodiment

[0110] The arrangements described above have relied on the property of low coefficient of friction to provide a barrier to climbing insects, but other forms of barrier are envisaged by the present invention.

[0111] In one preferred arrangement the barrier may be formed by a surface coating which, although not necessarily having the property of low coefficient of friction, may be

sufficiently unpleasant to the senses of insects as to dissuade them from traversing the barrier. Thus certain chemical compounds known to be inimical to insects or a particular group of insects to be guarded against, can be applied in similar manner to that described above; that is by a band of the compound applied around a supporting leg of a bed or the supporting substructure of an elevated structure. For example marine anti-fouling paint or like chemical composition may be suitable for some groups of insects. The suitable chemical compound may be impregnated into a porous material formed into a washer or gasket as described above and assembled to the upper portion of a bed leg. In this latter arrangement also, it is preferable if the washer or gasket extends significantly beyond the periphery of the upper end of the leg.

[0112] The formation of an insect barrier which relies on properties which promote aversion in an insect, need not of course be restricted to vertical surfaces. Thus a perimeter band of a chemically formulated material may be applied to a horizontal surface, or placed across a known route of insect infiltration.

#### Fifth Embodiment

[0113] Although the legs supporting a bed may be the most common route of infestation by bed bugs, it will be appreciated that alternative routes may be available if the bed base or bedding is in contact with a separate bed head W or a wall. To cover this contingency, suitably prepared offset blocks 30 may be provided between the bed head 32 and an adjacent wall 34 as shown in FIG. 10. These blocks are provided with similar bug impeding material, that is, for example by covering in Teflon® tape, or by impregnation or coating with a repellent chemical compound, as described for the bed leg and bed support structure's above.

[0114] Preferably, blocks for covering with Teflon® or other low coefficient of friction tape, are triangular in section and affixed to the bed head so as to present a sharp edge, for example the apex of an isosceles triangle, uppermost and extending between the wall and the bed-head. Thus only steeply sloping surfaces are presented between the wall and the bed head. More preferably, the offsetting blocks 30 could be provided with a ring or gasket 36 of low coefficient of friction material, with the ring or gasket 36 arranged to present a vertical surface extending radially outwards from the block.

[0115] In another preferred arrangement shown in FIG. 11, offset blocks 40 may be provided with a cup shaped barrier 42, formed of low coefficient of friction material, with outwardly extending rim 44, thus providing surface interfaces shown to be proof against traversing by bed bugs. In this arrangement, the cup shaped barrier may be secured between the offset block 40 and the surface of the bed head 32.

[0116] Offset blocks may be provided with a through aperture for accepting a securing screw 46 as shown in FIG. 10.

[0117] In each of the embodiments described above, the layer or disc of material, the offset blocks and low coefficient of friction tape, may conveniently be provided in packaged kit form suitable for retro-fitting to existing bed legs. Kits of discs with central apertures could be made available in a selection of shapes and sizes to suit, for example, typical square and circular section bed legs. The number of discs provided could vary for different bed configurations, for example ranging from perhaps four for a small single bed, to nine for a large double bed.

[0118] The above describes only some embodiments of the present invention and modifications, obvious to those skilled in the art, can be made thereto without departing from the scope of the present invention. For example alternative materials which may provide suitable properties include GoreTex and Kel-F.

1-90. (canceled)

91. A method of preventing infestation of a bed by creeping insects; said method including the application of a barrier to the legs of said bed; said barrier comprising a relatively thin disc or layer of material inimical to at least a selection of said creeping insects; a surface of said relatively thin disc of material having a dynamic coefficient of friction less than 0.4; said disc or layer interposed between an upper end of each bed leg and the underside surface of a bed base of said bed.

92. The method of claim 91 wherein said coefficient of friction prevents a creeping insect traversing a substantially horizontal underside of said disc or layer.

93. The method of claim 91 wherein properties of said surface include resistance to van der Waal forces.

94. The method of claim 91 wherein said disc or layer is composed of polytetrafluoroethylene or similar compounds; such compounds commonly known as Teflon®.

95. The method of claim 91 wherein said disc or layer is sized so as to extend beyond the periphery of an upper end of said bed leg; an extended portion of said disc or layer forming a substantially horizontal annular underside surface between said periphery and said bed base.

96. The method of claim 95 wherein said extended portion extends radially at least 15 mm from said periphery.

97. The method of claim 91 wherein said disc or layer is provided with a central aperture; said aperture sized so as to allow passage therethrough of a securing bolt of said bed leg.

98. A method of reducing infestation of a bed by climbing insects; said method including interposing insect impeding barriers in the form of a relatively thin disc or layer of material inimical to at least a selection of said creeping insects at supporting elements of said bed; said method including the steps of:

- (a) detaching each supporting element of said bed;
- (b) applying said insect impeding barrier to an upper end of said supporting element;
- (c) re-attaching said supporting elements to said bed such that said barrier is interposed between said upper end of said supporting element and an underside of said bed, and

wherein said barrier has a surface with a dynamic coefficient of friction less than 0.4.

99. The method of claim 98 wherein said supporting element is a bed leg;

said bed leg attaching to an underside of a bed base of said bed by a length of threaded rod projecting from said upper end of said bed leg.

100. The method of claim 98 wherein said barrier is formed as a disc or layer of low friction material.

101. The method of claim 98 wherein said disc or layer is sized to project radially from a periphery of said bed leg so as to expose an annular surface of said low friction material forming a substantially horizontal underside surface between a periphery of said bed leg and said underside of said bed.

102. The method of claim 101 wherein said disc or layer extends radially from said periphery by at least 15 mm.

**103.** The method of claim **101** wherein said disc or layer extends radially from said periphery by between 10 and 20 mm.

**104.** The method of claim **98** wherein said method includes the further steps of interposing offset blocks between a bed head of said bed and an adjacent wall; said offset blocks including an insect impeding barrier.

**105.** The method of claim **104** wherein said insect impeding barrier includes application of a low coefficient of friction tape to surfaces of said offset blocks; said offset blocks configured so as to present one or more upwardly sloping upper surface only, between said bed head and said adjacent wall.

**106.** The method of claim **104** wherein said insect impeding barrier includes a ring of low coefficient of friction material; said ring of material including vertical surfaces projecting radially from surfaces of said offset blocks.

**107.** A method of preventing infestation by creeping insects of a bed or other elevated structure; said method including the application of a barrier to the legs or substructure of said bed or other elevated structure; said barrier comprising a band of a material inimical to at least a selected group of said creeping insects.

**108.** A relatively thin disc or layer of material for interposing between an upper portion of a bed leg and the underside of a bed base; said disc or layer of material inimical to traversing by bed bugs and other creeping insects; said disc or layer of material sized so as to project radially beyond the periphery of said upper portion of said bed leg thereby presenting an exposed substantially horizontal underside, annular portion, of said material.

**109.** A kit for providing protection of infestation of a bed by bed bugs and other climbing insects; said kit comprising packaging containing a number of relatively thin discs or layers of a low coefficient of friction material; said discs or layers adapted for interposing between upper portions of bed legs and the underside of a bed base of said bed.

**110.** A bed proofed against infestation by bed bugs and other climbing insects; said bed provided with barriers comprising a relatively thin disc or layer or an offset block preventing access to mattress and bedding of said bed; said barriers including surfaces of low coefficient of friction material; said barriers interposed between an upper portion of legs of said bed and the underside of the bed base.

**111.** A method of preventing infestation of a bed by creeping insects; said method including the application of a barrier to the legs of said bed; said barrier comprising a disc or layer of material made from a low co-efficient of friction material inimical to at least a selection of said creeping insects; said disc or layer interposed between an upper end of each bed leg and the underside surface of a bed base of said bed.

**112.** A method of reducing infestation of a bed by climbing insects; said method including interposing insect impeding barriers at supporting elements of said bed; said barriers made from a low co-efficient of friction material; said method including the steps of:

- (d) detaching each supporting element of said bed;
- (e) applying said insect impeding barrier to an upper end of said supporting element;
- (f) re-attaching said supporting elements to said bed such that said barrier is interposed between said upper end of said supporting element and an underside of said bed.

**113.** A disc or layer of material for interposing between an upper portion of a bed leg and the underside of a bed base; said disc or layer of material inimical to traversing by bed bugs and other creeping insects; said disc or layer of material sized so as to project radially beyond the periphery of said upper portion of said bed leg thereby presenting an exposed substantially horizontal underside, annular portion, of said material; said material made from a low co-efficient of friction material.

**114.** A kit for providing protection of infestation of a bed by bed bugs and other climbing insects; said kit comprising packaging containing a number of discs or layers made of a low coefficient of friction material; said discs or layers adapted for interposing between upper portions of bed legs and the underside of a bed base of said bed.

**115.** A bed proofed against infestation by bed bugs and other climbing insects; said bed provided with barriers preventing access to mattress and bedding of said bed; said barriers made from a low co-efficient of friction material or said barriers including surfaces of low coefficient of friction material; said barriers interposed between an upper portion of legs of said bed and the underside of the bed base.

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