



US 20110016630A1

(19) **United States**(12) **Patent Application Publication**
Cheng(10) **Pub. No.: US 2011/0016630 A1**(43) **Pub. Date: Jan. 27, 2011**(54) **BED SHEET CLAMP****Publication Classification**(75) Inventor: **Chin Tao Cheng**, Shenzhen (CN)(51) **Int. Cl.**
A47C 21/02 (2006.01)(52) **U.S. Cl.** 5/498

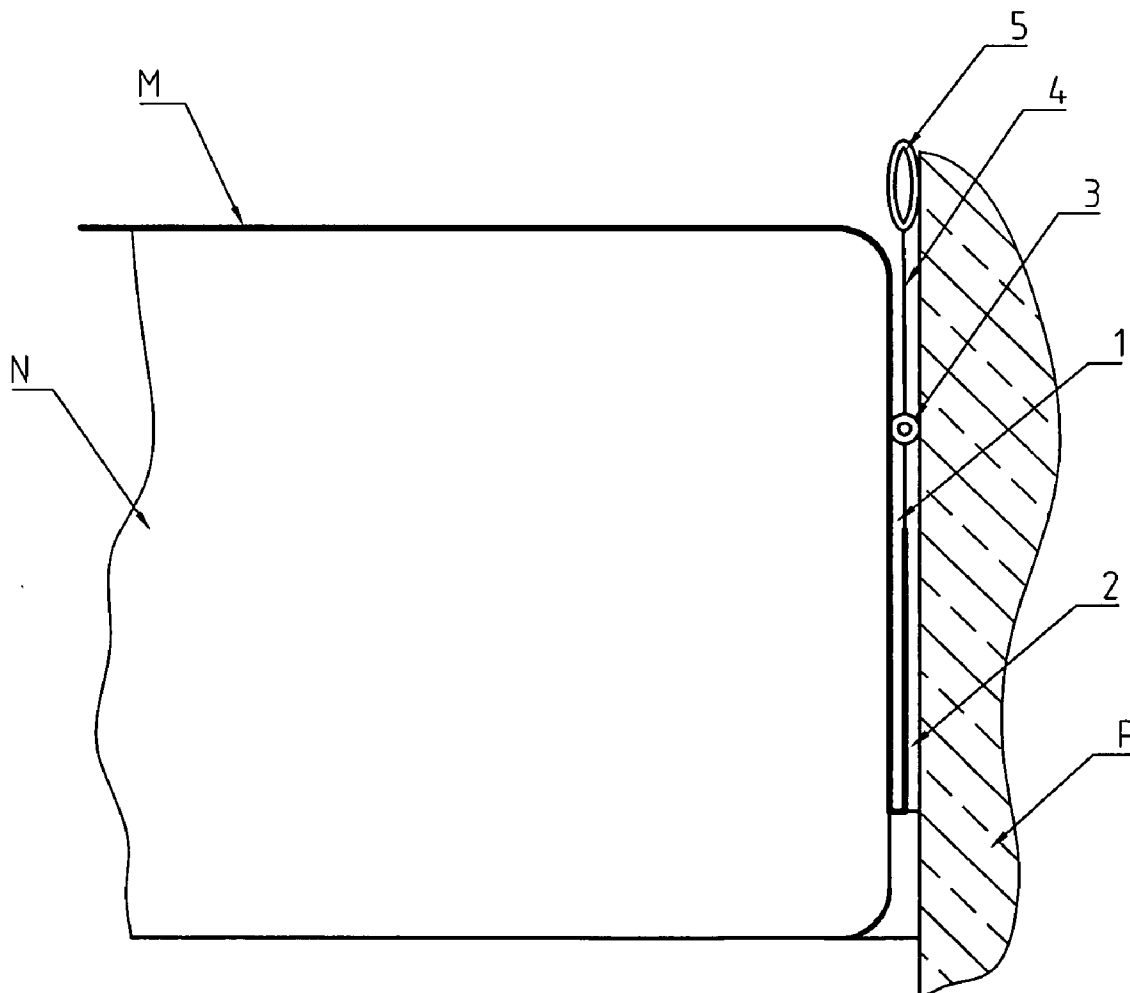
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MONTREY PARK, CA 91754 (US)(57) **ABSTRACT**(73) Assignee: **Yan BAO**

A bed sheet clamp includes a first clamp plate and a second clamp plate. The first clamp plate and second clamp plate are hinged or joined at 90 degrees in a fixed manner. The bed sheet clamp features a simple structure. It is necessary to put the edge of a bed sheet into the head of a bed or near the wall, just insert the edge of the bed sheet into the two hinged clamp plates, coil it, and insert both the bed sheet clamp and the bed sheet into the gap near the head of the bed or the wall. For any part of the bed sheet protruding out of the mattress, use the bed sheet clamp joined at 90 degrees. The use of the bed sheet clamp not only facilitates making the bed, but also increases the force retaining the edge of the bed sheet, so that the bed sheet is tightened and the properly arranged bed sheet will not get loose easily. In this way, one can make the bed clean and tidy.

(21) Appl. No.: **12/804,529**(22) Filed: **Jul. 22, 2010**(30) **Foreign Application Priority Data**

Jul. 22, 2009 (CN) 200920134160.X



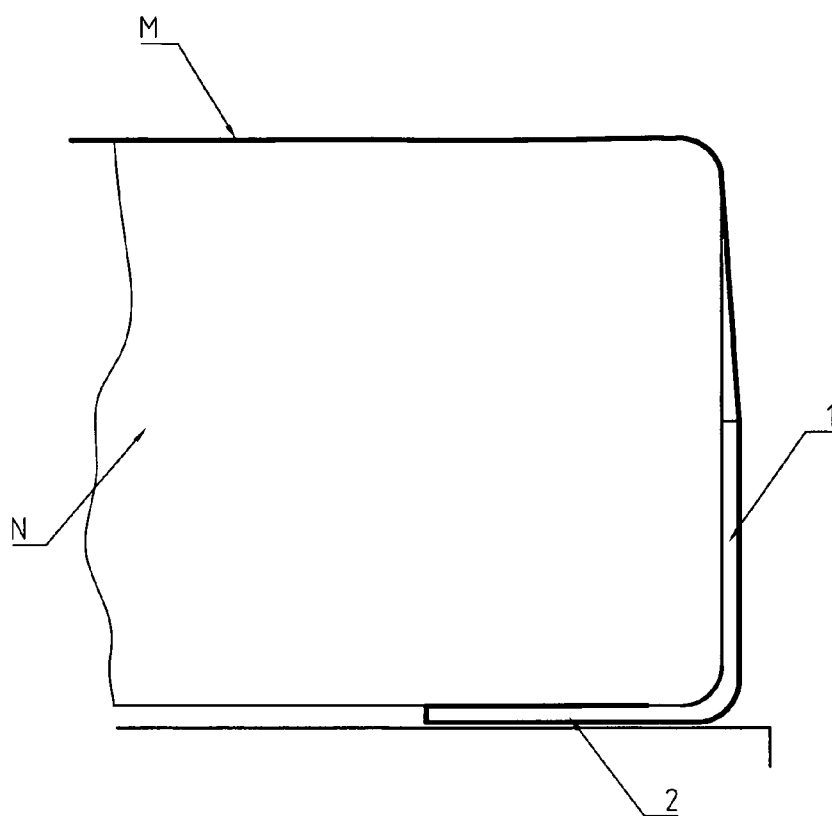


Figure 1

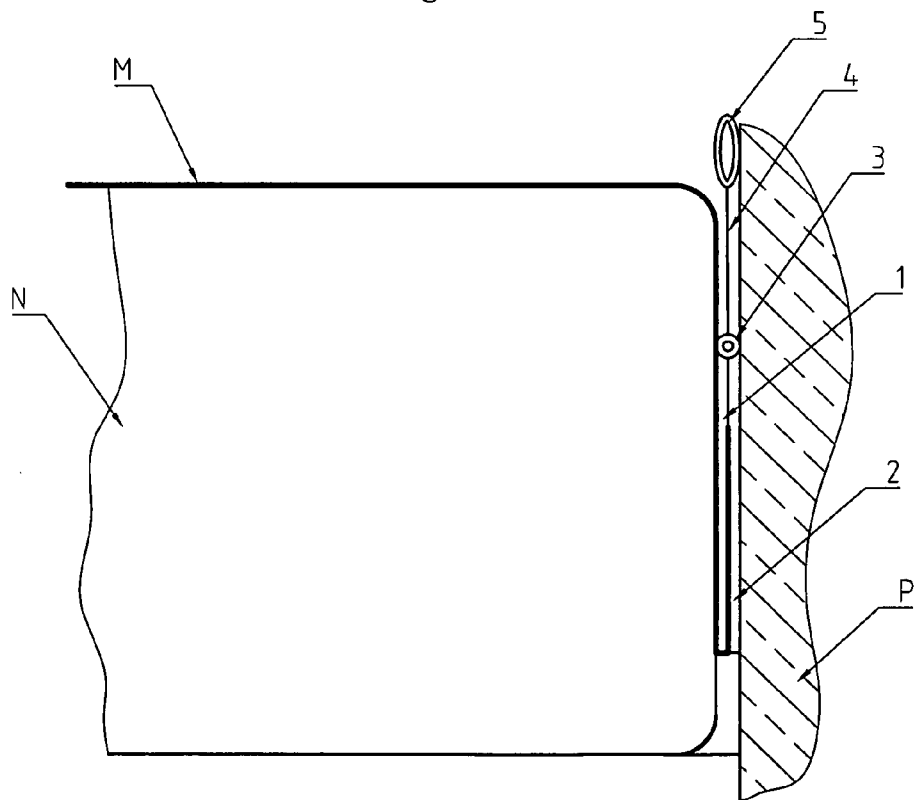


Figure 2

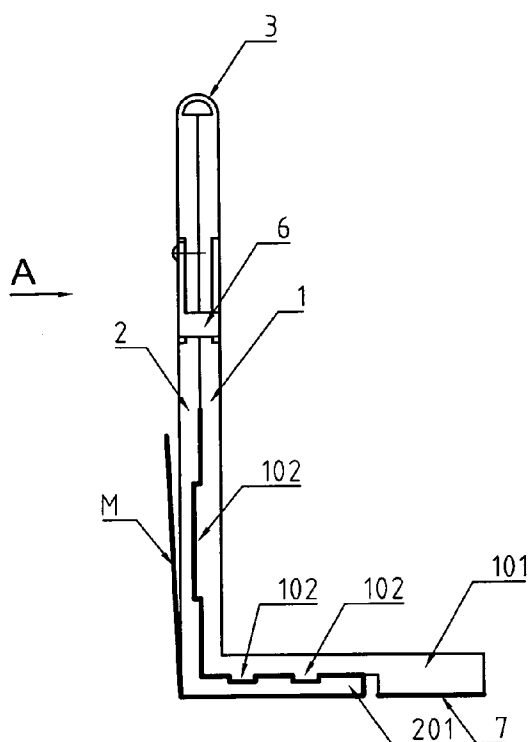


Figure 3

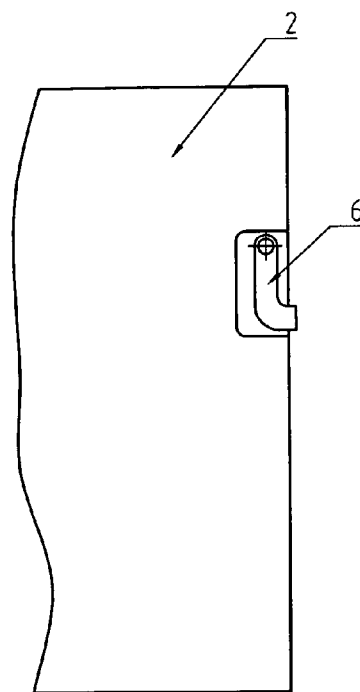


Figure 4

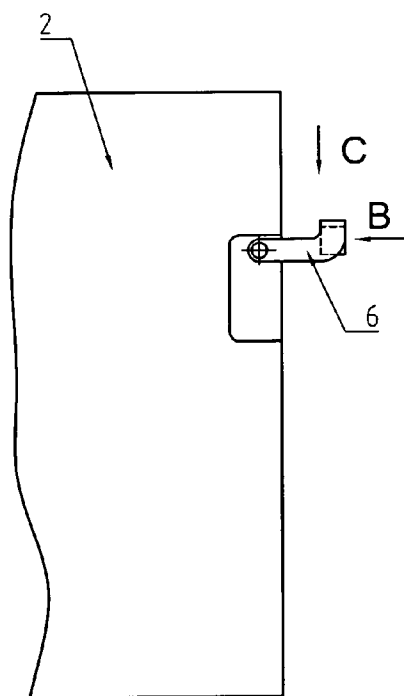


Figure 5

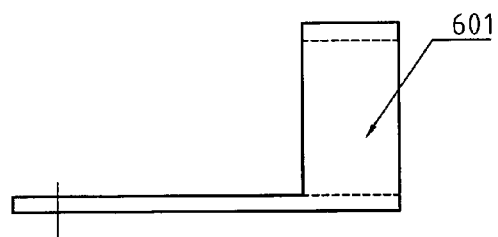


Figure 6

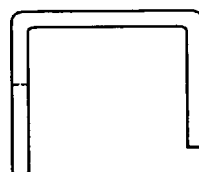


Figure 7

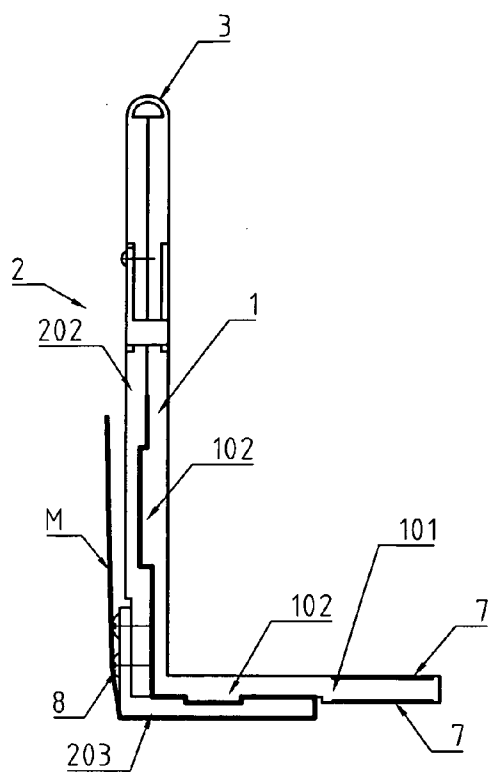


Figure 8

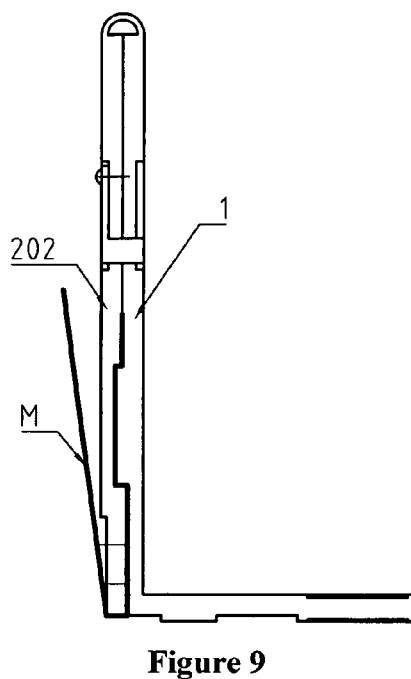


Figure 9

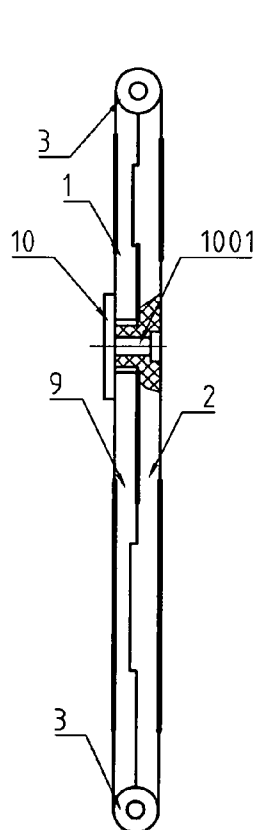


Figure 10

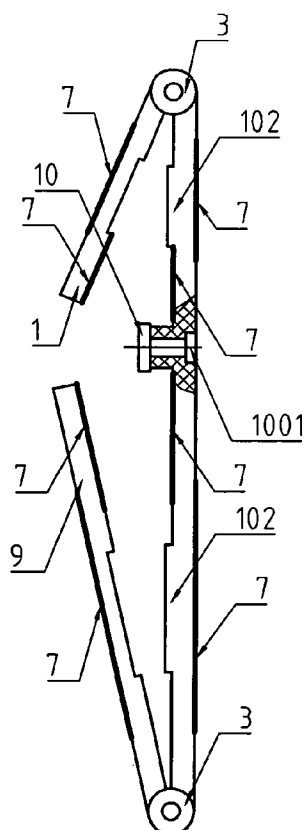


Figure 11

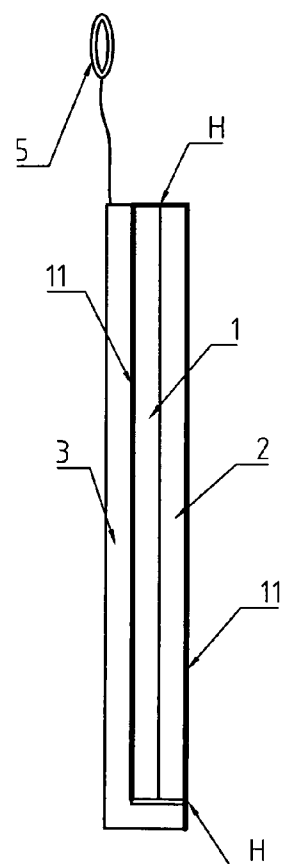


Figure 12

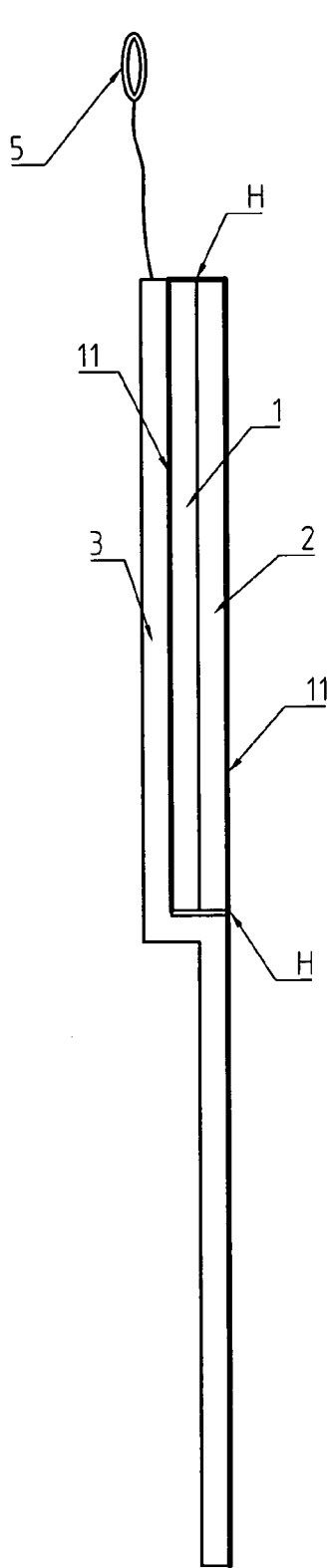


Figure 13

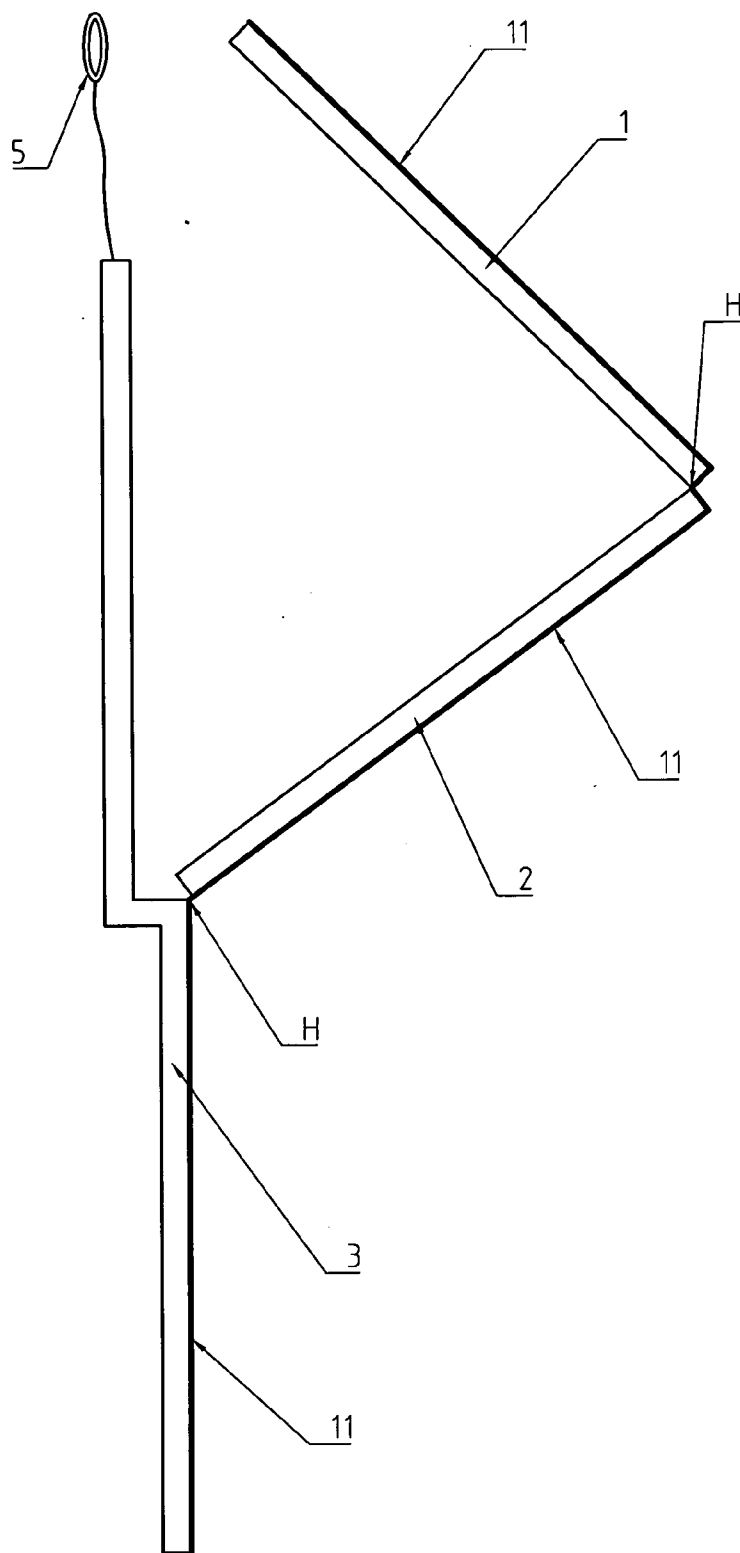


Figure 14

BED SHEET CLAMP

BACKGROUND OF THE PRESENT INVENTION

[0001] 1. Field of Invention

[0002] The present invention relates to beddings, and more particularly relates to a bed sheet clamp.

[0003] 2. Description of Related Arts

[0004] A neat and tidy bedroom first needs an orderly doss. If someone sits or lies down on an orderly bed sheet over a mattress, the bed sheet will be in a mess due to looseness. So it is a troublesome thing to lay down a bed sheet and it takes a lot of work. For a bed sheet of a larger size, it is necessary to fold edges of the bed sheet under the bottom of the mattress, especially when it is necessary to fold the edges of a bed sheet under the bottom of the mattress near the head of the bed or near the wall, since there is only a very limited space on the side of the mattress. Thus, it is a painstaking job to lay down the bed sheet, and it may hurt your hands or fingernails if care is not taken.

SUMMARY OF THE PRESENT INVENTION

[0005] The technical problem for the present invention to be solved is to provide a bed sheet clamp which facilitates lying down and tightening bed sheets to avoid looseness.

[0006] To solve the above technical problem, the technical scheme adopted by the utility model is a bed sheet, including the first clamp plate and the second clamp plate. Said first clamp plate and second clamp plate are hinged or joined in a fixed manner at 90 degrees.

[0007] The above-mentioned bed sheet clamp includes a third clamp plate, the first clamp plate is hinged to the upper end of the second clamp plate, and the third clamp plate is hinged to the lower end of the second clamp plate.

[0008] The above-mentioned bed sheet clamp includes a hold-down plate, the length of the first clamp plate is different from that of the third clamp plate, and the sum of the lengths of the first clamp plate and the third clamp plate is less than that of the second clamp plate; said hold-down plate is located between the head ends of the first and third clamp plates and is mounted onto the second plate through a rotating shaft; the width of said hold-down plate is less than the distance between the head ends when the first clamp plate, the third clamp plate and the second clamp plate are joined, and the length of the hold-down plate is greater than the distance between the head ends when the first clamp plate, the third clamp plate and the second clamp plate are joined. For the above-mentioned bed sheet clamp, the first clamp plate is hinged to the upper end of the second clamp plate, the lower ends of both the first and second clamp plates are bent to 90 degrees, with the identical bending direction; when the first and second clamp plates are joined, the bending part of the second clamp plate presses on the lower part of the bending part of the first clamp plate.

[0009] For the above-mentioned bed sheet clamp, the second clamp plate includes a vertical clamp plate and a 90° bent clamp plate which is mounted at the lower end of the vertical clamp plate; the upper end of said vertical clamp plate is hinged to that of the first clamp plate, said 90° bent clamp plate includes a vertical part and a bent part, and the vertical part of the 90° bent clamp plate is joined to the vertical clamp plate in a movable way; when the first and second clamp

plates are joined, the bending part of the 90° bent clamp plate presses on the lower end of the bending part of the first clamp plate.

[0010] For the above-mentioned bed sheet clamp, at the joining part of the clamp plates, one clamp plate has a transverse nib, and the other clamp plate has a groove corresponding to said nib.

[0011] For the above-mentioned bed sheet clamp, a pull ring is included, and said, pull ring is joined to the protruding part of said bed sheet clamp through a soft rope.

[0012] For the above-mentioned bed sheet clamp, a hook is included, said hook can be fixed onto near the side of a clamp plate through a pin in a rotational manner, and when said clamp plate is joined to the other clamp plate, the hooking part of the hook fastens the two clamp plates at the location on the side of both clamp plates.

[0013] For the above-mentioned bed sheet clamp, the inner surface and/or outer surface of the clamp plate is mounted or embedded with friction material.

[0014] For the above-mentioned bed sheet clamp, said hinge joint is achieved by hinged connection of the head end of the clamp plate through a pin or by connection via a kind of flexible thin-wall material.

[0015] The bed sheet clamp of the utility model features a simple structure. If it is necessary to put the edge of a bed sheet into the head of a bed or near the wall, just insert the edge of the bed sheet into the two hinged clamp plates, coil it, and insert both the bed sheet clamp and the bed sheet into the gap near the head of the bed or the wall. Since there is only a very limited space on the side of the bed, the elasticity of the mattress can easily fix the bed sheet clamp. During the operation, do not put your hands into the gap; otherwise it may hurt your hands or fingernails. For any part of the bed sheet protruding out of the mattress, use the bed sheet clamp joined at 90 degrees. After the edge of the bed sheet coils over the 90° angular clamp, insert the horizontal lower clamp plate of the 90° angular clamp under the mattress. The use of the bed sheet clamp of the utility model not only facilitates making the bed, but also increases the force retaining the edge of the bed sheet, so that the bed sheet is tightened and the properly arranged bed sheet will not get loose easily. In this way, you can make the bed clean and tidy.

[0016] These and other objectives, features, and advantages of the present invention will become apparent from the following detailed description, the accompanying drawings, and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. 1 is a schematic diagram of the operational status of Embodiment 1 of the bed sheet clamp of utility model.

[0018] FIG. 2 is a schematic diagram of the operational status of Embodiment 2 of the bed sheet clamp of utility model.

[0019] FIG. 3 is a structural diagram of Embodiment 3 of the bed sheet clamp of utility model.

[0020] FIG. 4 is the view in A direction of FIG. 3.

[0021] FIG. 5 is the view when the hook in FIG. 4 is opened.

[0022] FIG. 6 is the view in C direction of FIG. 5.

[0023] FIG. 7 is the view in B direction of FIG. 5.

[0024] FIG. 8 is the structural diagram of Embodiment 4 of the bed sheet clamp of utility model.

[0025] FIG. 9 is the structural diagram of Embodiment 4 of the bed sheet clamp of utility model when the 90° bent clamp plate is removed.

[0026] FIG. 10 is a schematic diagram of Embodiment 4 of the bed sheet clamp of utility model.

[0027] FIG. 11 is the structural diagram of Embodiment 4 of the bed sheet clamp of utility model when the hold-down plate is opened.

[0028] FIG. 12 is the structure diagram of Embodiment 5 of the bed sheet clamp of utility model.

[0029] FIG. 13 is the structure diagram of Embodiment 6 of the bed sheet clamp of utility model.

[0030] FIG. 14 is the structural diagram of Embodiment 6 of the bed sheet clamp of utility model when it is opened.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0031] As shown in FIG. 1, the 90° angular bed sheet clamp according to a first embodiment of the bed sheet clamp of the present invention comprises a clamp plate (1) and a second clamp plate (2). The first clamp (1) is a vertical plate, and the second plate (2) is a horizontal plate. The first clamp plate (1) and the second clamp plate (2) are joined at 90° in a fixed manner to form an angular clamp. The embodiment here is used with bed sheet M on the protruding part of mattress N. For application, the edge of bed sheet M coils over the 90° angular clamp from the outer side of the vertical plate and the lower part of the horizontal plate, covers the upper part of the horizontal plate, then insert the horizontal plate of the 90° angular clamp under mattress N which presses on the edge of bed sheet M and the horizontal plate of the 90° angular clamp so that bed sheet M will not lose easily.

[0032] FIG. 2 shows the schematic diagram of the operational status of a second embodiment of the present invention. The first clamp plate (1) is hinged to the upper end through a pin hinge (3). The embodiment is used for the head of a bed or the location near a wall, and there is a gap between mattress N and head of the bed or wall P. For application, clamp and coil the edge of bed sheet M between the two hinged clamp plates, and insert both the bed sheet clamp and bed sheet M into the gap at the head of the bed or near the wall, since there is a very limited space between the mattress side and the bed head or wall, the elasticity of mattress N can fix the bed sheet clamp easily. During operations, your hands do not need to be extended into the gap between the mattress side and the bed head or wall; so your hands or fingernails will not be hurt. The pull ring (5) is joined to the hinged part of the bed sheet clamp through a soft rope (4). To change the bed sheet or to remove the bed sheet clamp, just pull the ring (5) and pull out the bed sheet clamp from the gap by the soft rope (4).

[0033] FIGS. 3 through 7 show the structure of a third Embodiment of the bed sheet clamp of the present invention. This embodiment is used for the exposed part of the mattress. The first clamp plate (1) and the second clamp plate (2) of the bed sheet clamp are hinged at the upper end. It is a flexible hinged connection, and the hinged part uses a kind of thin-wall flexible material to form a hinge (3). Both the lower ends of the first clamp plate (1) and the second clamp plate (2) are bent at 90 degrees, with the identical bending direction. When the first clamp plate (1) and the second clamp plate (2) are joined, the bending part (201) of the second clamp plate (2) presses on the lower part of the bending part (101) of the first clamp plate (1). For application, place the edge of the bed on the joint surface between the first clamp plate (1) and the

second clamp plate (2). The first clamp plate (1) has three transverse nibs (102) on the joint surface, and the second clamp plate (2) has three transverse grooves corresponding to the three transverse nibs (102). Thus, when the first clamp plate (1) and the second clamp plate (2) are joined, the engagement surface of such a kind of structure will firmly insert and clamp bed sheet M between the first clamp plate (1) and the second clamp plate (2). To increase the friction between the bed sheet clamp and the bed, the lower surface of the bending part (101) of the first clamp plate (1) is pasted with a rubber piece (7) to serve as friction material.

[0034] To prevent the bed sheet clamp from loosening during application, this embodiment also includes a hook (6) whose structure and layout are shown in FIGS. 3 through 7. The hook (6) is fixed near the side of the second clamp plate (2) through a pin in a rotational manner. When this clamp plate is joined to the first clamp plate (1), the hook (6) will be rotated clockwise, and the hooking part (601) of the hook will fasten the two clamp plates at the side locations of the two clamp plates. Rotating the hook anticlockwise can loosen the two clamp plates. Such a kind of hook structure is mainly used for the end of a mattress.

[0035] FIGS. 8 and 9 show the structure of a fourth Embodiment of the bed sheet clamp of the present invention, which is a variant of the above third embodiment. The second clamp plate of the fourth embodiment includes a vertical clamp plate (202) and a 90° bent clamp plate (203). The bent clamp plate is mounted on the lower end of the vertical one. The upper end of the vertical clamp plate (202) is hinged to the upper end of the first clamp plate (1). The 90° bent clamp plate (203) includes a vertical part and a bent part. The vertical part of the 90° bent clamp plate is mounted on the lower end of the vertical clamp plate (202) by screws; and when the first clamp plate (1) and the second clamp plate (2) are joined, the bent part of the 90° bent clamp plate (203) presses on the lower part of the bent part of the first clamp plate (1). In this case, the operating status is equal to that shown in Embodiment 3. In case of a shorter bed sheet M, the above-mentioned method is inconvenient to apply the bed sheet clamp, you can remove the 90° bent clamp plate (203) from the lower end of the vertical clamp plate (202). In this case, bed sheet M is only located between the vertical clamp plate (202) and the first clamp plate (1), as shown in FIG. 9. Both the upper and lower surfaces of the bent part (101) of the first clamp plate (1) are embedded with a rubber piece (7) to serve as a kind of friction material to increase the friction force.

[0036] The structure of the fourth embodiment of the bed sheet clamp of the present invention is shown in FIGS. 10 and 11, which is used for locations at bed head or near wall. Embodiment 4 is a triple-folded bed sheet clamp, including the third clamp plate (9). The first clamp plate (1) is hinged to the upper end of the second clamp plate (2) through a pin hinge (3), and the third clamp plate (9) is hinged to the lower end of the second clamp plate (2) through the pin hinge (3). The length of the first clamp plate is shorter than that of the third clamp plate. The sum of the lengths of the first clamp plate (1) and the third clamp plate (9) is less than that of the second clamp plate (2). Such a triple-folded bed sheet clamp with different lengths easily adapts to bed sheets of different sizes. To prevent a fastened bed sheet from loosening, this embodiment also includes a hold-down plate (10). The hold-down plate (10) is located between the two head ends between the first clamp plate (1) and the third clamp plate (9) and is mounted on the second clamp plate (2) through a rotating

shaft (1001). The hold-down plate (10) is of rectangular shape. the width of the hold-down plate (10) is less than the distance between the head ends when the first clamp plate (1), the third clamp plate (9) and the second clamp plate (2) are joined, facilitating the opening of the first clamp plate (1) and the third clamp plate (9) (as shown in FIG. 11). The length of the hold-down plate (10) is greater than the distance between the head ends when the first clamp plate (1), the third clamp plate (9) and the second clamp plate (2) are joined. Rotating the hold-down plate (10) for 90 degrees can lock the first clamp plate (1) and the third clamp plate (9) into the position of joining with the second clamp plate (2). The inner surface of the second clamp plate (2) has two transverse nibs (102), and both the first clamp plate (1) and the third clamp plate (9) respectively have two grooves corresponding to the two nibs. Both the inner and outer surfaces of the first clamp plates (1), the second clamp plate (2) and the third clamp plate (9) are pasted with a rubber piece to serve as a kind of friction material to increase the friction force. A pull ring is also configured in this embodiment, but it is not given in the figure.

[0037] A fifth embodiment of the bed sheet clamp of the present invention shown in FIG. 12 and a sixth embodiment shown in FIGS. 13 and 14 are another two variants of the triple-folded bed sheet clamp.

[0038] Both the fifth embodiment and the sixth embodiment include the third clamp plate (9), the first clamp plate (1) and the second clamp plate (2). The first clamp plate (1) is hinged to the upper end of the second clamp plate (2), and the third clamp plate (9) is hinged to the lower end of the second clamp plate (2). What is different from the above-mentioned embodiments lies in that the outer surfaces of the first clamp plate (1) and the second clamp plate (2) are covered with a piece of leather (11). The leather (11) not only can improve the friction force on the outer surfaces of the first clamp plate (1) and the second clamp plate (2), but also can serve as a kind of flexible material to form a hinge (H) between the first clamp plate (1) and the second clamp plate (2). In Embodiment 5, the third clamp plate (9) is of L shape, and the lower end of the second clamp plate (2) and the lower end of the third clamp plate (9) also form a hinge (H) through the leather (11) covered on outer surfaces. The L-shaped third clamp plate (9) facilitates the first clamp plate (1) and the second clamp plate (2) to enter the L-shaped groove of the third clamp plate after being joined, so as to form a labyrinth structure. The force for fastening a bed sheet is increased in this way. The pull ring (5) is applied to facilitate removing the bed sheet clamp.

[0039] The difference of the sixth embodiment from the fifth Embodiment lies in that the third clamp plate (9) is somehow prolonged under the hinged point based on the L shape, but with the same principle of action.

[0040] The height of the bed sheet clamp of the utility model is normally a half or two-thirds of the mattress height, with a width of about 20 to 40 cm. During application, two bed sheet clamps can be deployed on each side of a bed, and if necessary, a bed sheet clamp can also be configured respectively at bed head and tail. I-shaped bed sheet clamps are used for locations at bed head or near wall, while L-shaped ones are used for protruding parts of a mattress.

[0041] One skilled in the art will understand that the embodiment of the present invention as shown in the drawings and described above is exemplary only and not intended to be limiting.

[0042] It will thus be seen that the objects of the present invention have been fully and effectively accomplished. Its embodiments have been shown and described for the purposes of illustrating the functional and structural principles of the present invention and is subject to change without departure from such principles. Therefore, this invention includes all modifications encompassed within the spirit and scope of the following claims.

What is claimed is:

1. A bed sheet clamp, comprising:

a first clamp plate; and

a second clamp plate, wherein the first clamp plate and second clamp plate are hinged or joined at 90 degrees in a fixed manner.

2. A bed sheet clamp, as recited in claim 1, further comprising a third clamp plate, wherein the first clamp plate is hinged to the top of the second clamp plate, and the third clamp plate is hinged to the bottom of the second clamp plate.

3. A bed sheet clamp, as recited in claim 2, further comprising a hold-down plate, wherein the length of the first clamp plate is different from that of the third clamp plate, and the sum of the lengths of the first clamp plate and the third clamp plate is less than that of the second clamp plate, wherein the hold-down plate is located between the head ends of the first and third clamp plates and is mounted onto the second plate through a rotating shaft, wherein the width of said hold-down plate is less than the distance between the head ends when the first clamp plate, the third clamp plate and the second clamp plate are joined.

4. A bed sheet clamp, as recited in claim 1, wherein the first clamp plate is hinged to the second clamp plate at the top, and the bottom of both the first and second clamp plates are bent to 90 degrees with identical bending direction; wherein when the first and second clamp plates are joined, the bending part of the second clamp plate presses on the lower part of the bending part of the first clamp plate.

5. A bed sheet clamp, as recited in claim 4, wherein the second clamp plate includes a vertical clamp plate and a 90° bent clamp plate which is mounted at the lower end of the vertical clamp plate, wherein the upper end of said vertical clamp plate is hinged to that of the first clamp plate, and the 90° bent clamp plate includes a vertical part and a bent part, wherein the vertical part of the 90° bent clamp plate is joined to the vertical clamp plate in a movable way, wherein when the first and second clamp plates are joined, the bending part of the 90° bent clamp plate presses on the lower end of the bending part of the first clamp plate.

6. A bed sheet clamp, as recited in claim 2, wherein at the joining part of the clamp plates, one clamp plate has a transverse nib, and the other clamp plate has a groove corresponding to the nib.

7. A bed sheet clamp, as recited in claim 3, wherein at the joining part of the clamp plates, one clamp plate has a transverse nib, and the other clamp plate has a groove corresponding to the nib.

8. A bed sheet clamp, as recited in claim 4, wherein at the joining part of the clamp plates, one clamp plate has a transverse nib, and the other clamp plate has a groove corresponding to the nib.

9. A bed sheet clamp, as recited in claim 4, wherein at the joining part of the clamp plates, one clamp plate has a transverse nib, and the other clamp plate has a groove corresponding to the nib.

10. A bed sheet clamp, as recited in claim 3, further comprising a pull ring, wherein the pull ring is joined to the protruding part of the bed sheet clamp through a soft rope.

11. A bed sheet clamp, as recited in claim 3, further comprising a hook, wherein the hook is able to be fixed onto near the side of a clamp plate through a pin in a rotational manner, and when said clamp plate is joined to the other clamp plate, the hooking part of the hook fastens the two clamp plates at the location on the side of both clamp plates.

12. A bed sheet clamp, as recited in claim 4, further comprising a hook, wherein the hook is able to be fixed onto near the side of a clamp plate through a pin in a rotational manner, and when said clamp plate is joined to the other clamp plate, the hooking part of the hook fastens the two clamp plates at the location on the side of both clamp plates.

13. A bed sheet clamp, as recited in claim 5, further comprising a hook, wherein the hook is able to be fixed onto near the side of a clamp plate through a pin in a rotational manner, and when said clamp plate is joined to the other clamp plate, the hooking part of the hook fastens the two clamp plates at the location on the side of both clamp plates.

14. A bed sheet clamp, as recited in claim 3, wherein the inner surface and/or outer surface of the clamp plate is mounted or embedded with friction material.

15. A bed sheet clamp, as recited in claim 4, wherein the inner surface and/or outer surface of the clamp plate is mounted or embedded with friction material.

16. A bed sheet clamp, as recited in claim 5, wherein the inner surface and/or outer surface of the clamp plate is mounted or embedded with friction material.

17. A bed sheet clamp, as recited in claim 2, wherein the hinge joint is achieved by hinged connection of the head end of the clamp plate through a pin or by connection via a kind of flexible thin-wall material.

18. A bed sheet clamp, as recited in claim 3, wherein the hinge joint is achieved by hinged connection of the head end of the clamp plate through a pin or by connection via a kind of flexible thin-wall material.

19. A bed sheet clamp, as recited in claim 4, wherein the hinge joint is achieved by hinged connection of the head end of the clamp plate through a pin or by connection via a kind of flexible thin-wall material.

20. A bed sheet clamp, as recited in claim 5, wherein the hinge joint is achieved by hinged connection of the head end of the clamp plate through a pin or by connection via a kind of flexible thin-wall material.

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