## CLAIMS

What is claimed is:

1. A hinge for a window, comprising,

a sliding rail fixed on a frame of the window;

a sliding element movably mounted in the sliding rail;

a pulling bar fixed on a casement of the window, the pulling bar being driven by the sliding element to move relative to the sliding rail and rotate in a direction to do an angular movement;

a connecting plate, the pulling bar being connected with the sliding element through the connecting plate; and

a fixing element mounted on an end of the sliding rail, when the window being closed, a first end of the pulling bar being received in the fixing element, the fixing element including a first surface, a second surface and a third surface, the first surface and the second surface cooperatively forming a first angle, the third surface being a horizontal plane and perpendicular to the first surface or the second surface, the third surface defining a first lug, the sliding rail defining a second lug, the second lug being mounted in the first lug , wherein two opposite edges of the second lug perpendicular to an axis of the sliding rail have tangents by the cutting edges of a knife element, portions of the second lug near the tangents forming vertical cross sections which is not curved

edges, a fixing strength between the fixing element and the sliding rail along the axis of the sliding rail is improved by the vertical cross sections of the second lug.

2. The hinge for a window of claim 1, wherein a gap is existed between a horizontal plane of the second lug and a bottom of the sliding rail.

3. The hinge for a window of claim 1, wherein the first end of the pulling bar received the fixing element has a first side and a second side, the first side and the second side cooperatively form a second angle, the second angle is smaller than the first angle; the second angle is located inside of the first angle when the pulling bar curvilinearly moves towards the fixing element until the window is closed.

4. The hinge for a window of claim 3, wherein the highest point of the second angle is nearest to the fixing element than the other points of the pulling bar during the movement of the pulling bar, and the highest point of the second angle does not contact with the fixing element.

5. The hinge for a window of claim 3, wherein the first side and the second side respectively has concave arcs, a first point nearest to the first surface or the second surface than the other points formed on the first end is formed; when the pulling bar moves relative to the sliding rail until the window is closed, the first point may move towards the first surface or the second surface not to directly contact with the first surface and the second surface, while the other points formed on the first end may not directly

contact with the first surface and the second surface, no friction between the pulling bar and the fixing element is existed during the movement of the pulling bar.

6. The hinge for a window of claim 2, wherein the sliding element comprises a sliding plate movably mounted in the sliding rail, a sliding plate movably mounted in the sliding rail, a supporter located between the sliding plate and the bottom of the sliding rail, an elastic element mounted between the supporter and the sliding plate and a sliding cover, the sliding plate, the sliding cover and the supporter move simultaneously, the sliding element moves smoothly in the sliding rail, the sliding cover is fixed on the sliding plate and resisted on the sliding rail, the sliding plate has a first fixing hole, and the sliding cover has a second fixing hole corresponding to the first fixing hole, the connecting element is connected with the sliding cover and the sliding plate through the first fixing hole and the second fixing hole, the connecting element directly contacts with the sliding cover and only rubs against the sliding cover after the sliding cover is mounted on the sliding plate, a frictional resistance between the sliding cover and the connecting element is much smaller than the frictional resistance between metals because the sliding cover is made of a plastic.

7. A window, comprising:

a frame, a casement and a hinge used to open or close the casement, the hinge including:

a sliding rail fixed on a frame of the window;

a sliding element movably mounted in the sliding rail;

a pulling bar fixed on a casement of the window, the pulling bar being driven by the sliding element to move relative to the sliding rail and rotate in a direction to do an angular movement;

a connecting plate, the pulling bar being connected with the sliding element through the connecting plate; and

a fixing element mounted on an end of the sliding rail, when the window being closed, a first end of the pulling bar being received in the fixing element, the fixing element including a first surface, a second surface and a third surface, the first surface and the second surface cooperatively forming a first angle, the third surface being a horizontal plane and perpendicular to the first surface or the second surface, the third surface defining a first lug, the sliding rail defining a second lug, the second lug being mounted in the first lug, wherein two opposite edges of the second lug perpendicular to an axis of the sliding rail have tangents by the cutting edges of a knife element, portions of the second lug near the tangents forming vertical cross sections which is not curved edges, a fixing strength between the fixing element and the sliding rail along the axis of the sliding rail is improved by the vertical cross sections of the second lug.

8. The window of claim 7, wherein a gap is existed between a horizontal plane of the second lug and a bottom of the sliding rail.

9. The window of claim 7, wherein the first end of the pulling bar resisting the fixing element has a first side and a second side, the first side and the second side cooperatively form a second angle, the second angle is smaller than the first angle; the second angle is located inside of the first angle when the pulling bar curvilinearly moves towards the fixing element until the window is closed.

10. The window of claim 9, wherein the highest point of the second angle is nearest to the fixing element than the other points of the pulling bar during the movement of the pulling bar, and the highest point of the second angle does not contact with the fixing element.

11. The window of claim 9, wherein the first side and the second side respectively has concave arcs, a first point nearest to the first surface or the second surface than the other points formed on the first end is formed; when the pulling bar moves relative to the sliding rail until the window is closed, the first point may move towards the first surface or the second surface not to directly contact with the first surface and the second surface, while the other points formed on the first end may not directly contact with the first surface and the second surface, no friction between the pulling bar and the fixing element is existed during the movement of the pulling bar.

12. The window of claim 8, wherein the sliding element comprises a sliding plate movably mounted in the sliding rail, a sliding plate movably mounted in the sliding rail, a supporter located between the sliding plate and the bottom of the sliding rail, an elastic

element mounted between the supporter and the sliding plate and a sliding cover, the sliding plate, the sliding cover and the supporter move simultaneously, the sliding element moves smoothly in the sliding rail, the sliding cover is fixed on the sliding plate and resisted on the sliding rail, the sliding plate has a first fixing hole, and the sliding cover has a second fixing hole corresponding to the first fixing hole, the connecting element is connected with the sliding cover and the sliding plate through the first fixing hole and the second fixing hole, the connecting element directly contacts with the sliding cover and only rubs against the sliding cover after the sliding cover is mounted on the sliding plate, a frictional resistance between the sliding cover and the connecting element is much smaller than the frictional resistance between metals because the sliding cover is made of a plastic.

13. A method for making the hinge of a window, comprising:

preparing a fixing element and a sliding rail;

inserting the fixing element into a sliding groove of the sliding rail;

laying the sliding rail face down on a punching machine, the punching machine having a knife element;

forming a punching groove by the knife element through a punching process, forming a first lug on the fixing element by the punching process, and forming a second lug on the sliding rail by the punching process, the first lug and the second lug being

formed on the opposite side of the punching groove, the second lug being mounted in the first lug;

preparing a sliding element, mounting the sliding element movably on the sliding rail; and

preparing a pulling bar, fixing the pulling bar on the sliding element, wherein edges of the knife element perpendicular to an axis of the sliding rail have cutting edges, edges of the second lug form tangents by the cutting edges of the knife element, such that portions of the second lug near the tangents form vertical cross sections which is not curved edges, a fixing strength between the fixing element and the sliding rail along the axis of the sliding rail is improved by the vertical cross sections of the second lug; and

wherein the cutting edges are taller than a horizontal plane of the knife element and the taller parts of the cutting edges are not thicker than a thickness of the bottom of the sliding rail; wherein the cutting edges can cut the bottom of the sliding rail when the knife element is punched down on the sliding rail during the punching process of forming the tangents; the knife element is continue to be punched down on the sliding rail, the portions of the sliding rail between the tangents can be deformed due to the knife element, thereby forming the first lug, the second lug and the punching groove.

14. The method for making the hinge of claim 13, wherein a gap is existed between a surface of the second lug and a bottom of the sliding rail.

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