The present invention discloses a glass curtain fixing device, for clamping and supporting a glass to constitute a glass curtain. The glass curtain fixing device includes a base, a pressing ring and a propping rod. The base has a pressing portion transversally and circularly extended from an end of the base and passed through a through hole of the glass for clamping the glass by the pressing portion and the pressing ring. The glass is mounted onto a scaffold by the connection of propping rods. The invention installs at least one elastic flange disposed around the pressing portion such that when the glass is clamped by the pressing portion and the pressing ring, the pressing portion forms a well-sealed structure by the elasticity and deformation of the flange to constitute an airtight and waterproof glass curtain.
Fig. 1 PRIOR ART
Fig. 3
GLASS CURTAIN FIXING DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates to a glass curtain, and more particularly to a glass curtain fixing device.

BACKGROUND OF THE INVENTION

[0002] In general, glass curtain come with a high light transmission, and thus they can be used for places that require a good ambient light. Referring to FIG. 1, a piece of glass 1 is mounted onto a scaffold (not shown in the figure) by a fixing device 2. The fixing device 2 includes a base 3, a pressing ring 4 and a propping rod 5. The glass 1 has at least one through hole for installing the base 3, and the glass 1 is clamped by a pressing portion 3a of the base 3 and the pressing ring 4 and fixed onto the scaffold by a propping rod 5 coupled to the base 3, so as to mount the glass 1 onto the scaffold. To prevent the glass 1 from cracking, a pad 6 is installed between the pressing portion 3a, the pressing ring 4 and the glass 1 for sharing the forces exerted on the glass 1 when the glass 1 is clamped. To prevent the pad 6 from being deteriorated quickly by the incidence of ultraviolet rays, the pad 6 is made of a hard plastic material. Further, a cushion 7 is installed between the base 3 and the through hole of the glass 1 for providing a better connection for the installation of the base 3 onto the through hole. Several pieces of glasses 1 can be mounted onto the scaffold by the same fixing devices 2 to form a so-called glass curtain.

[0003] To resist the impact of external forces, the glass 1 used for the glass curtain has to go through a tempering process to enhance the hardness and strength of the glass 1, and the fixing device 2 is also made of a strong and hard alloy steel, and the pad 6 is made of a hard plastic material. Unlike the traditional fixing device 2 that may cause a tiny gap at the clamping position (primarily between the fixing device 2 and the pad 6) due to the planarity of the installed glass 1 and a water leak problem when it rains, the tempered glass 1 of the invention features a high hardness for solving the aforementioned problems.

SUMMARY OF THE INVENTION

[0004] The primary objective of the present invention is to overcome the foregoing shortcomings and avoid the existing deficiencies by providing a waterproof glass curtain fixing device to eliminate possible leaking of the glass curtain.

[0005] The secondary objective of the present invention is to provide an air tight glass curtain fixing device for clamping a glass curtain without damaging the air-tightness.

[0006] To achieve the foregoing objectives, a glass curtain fixing device of the invention is provided for clamping and supporting a glass having at least one through hole and mounted onto a scaffold. The glass curtain fixing device comprises: a base, a pressing ring and a propping rod, wherein the base is a lump having a pressing portion transversely and circularly extended from an end of the base, and the base is coupled into the through hole of the glass and the pressing portion is separated by a pad and pressing against a distal surface of the glass, and the pressing portion has at least one elastic flange disposed around the surface of the glass; a pressing ring is separated by another pad and pressing against another distal surface of the glass and coupled to the base for clamping and pressing the glass with the pressing portion; a propping rod has an end coupled to the base and another end coupled to the scaffold.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a cross-sectional view of a prior art structure;
[0008] FIG. 2 is an exploded view of the present invention;
[0009] FIG. 3 is a perspective view of the present invention;
[0010] FIG. 4A is a schematic view of a fixing device clamping the glass according to the present invention;
[0011] FIG. 4B is a cross-sectional view of section A-A as depicted in FIG. 4A; and
[0012] FIG. 5 is a cross-sectional view of a fixing device clamping a double-layer glass according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] To make it easier for our examiner to understand the technical characteristics, objective and performance of the invention, we use a preferred embodiment together with the attached drawings for the detailed description of the invention.

[0014] Referring to FIGS. 2 and 3, the present invention comprises a base 10, a pressing ring 20, a propping rod 30 and two pads 50. The base 10 is a cylindrical lump having a pressing portion 11 extended transversely and circularly from an end of the base 10. The pressing portion 11 includes at least one elastic flange 12 disposed around the internal circular surface of the pressing portion 11, an external screw thread 13 disposed on the external surface at another end of the base 10, and a circular groove 14 disposed inwardly on the pressing portion 11 and having a screw thread. The circular groove 14 is connected downward to a hemispherical socket 15, and the pressing ring 20 has an internal circular surface 21 with a screw thread secured onto the screw thread 13 outside the base 10. An end of the propping rod 30 has a spherical joint 31, and the other end of the propping rod 30 has a screw thread 32, and the spherical joint 31 is contained in the socket 15 and can be swayed slightly in a small angle. A locking ring 33 having an external screw thread is secured onto the circular groove 14 to latch the propping rod 30 and connect the propping rod 30 with the base 10.

[0015] Referring to FIGS. 4A and 4B, the glass curtain fixing device of the present invention clamps and supports a glass 40 having at least one through hole and mounted onto a scaffold (not shown in the figure), wherein the base 10 is connected to the through hole of the glass 40, and the pressing portion 11 is separated by a pad 50 and presses against a distal surface of the glass 40, and the flange 12 of the pressing portion 11 presses against the pad 50. The pressing ring 20 is also separated by a pad 50 and presses against another distal surface of the glass 40. The structure of the foregoing screw thread 21 is connected to the base 10, and the pressing ring 20 together with the top and bottom of the pressing portion 11 are used to clamp and press against the glass 40. Further, the screw thread 32 of the propping rod 30 of the present invention is secured to a joint (not shown in the figure) and connected to the scaffold.
To improve the waterproof effect, the pad 50 has an elastic flange 51 disposed around the surface of the glass 40, and the through hole between the base 10 and the glass 40 also includes a cushion 70 for providing a better connection, when the base 10 is installed onto the through hole. The flange 12, 51 of the invention can be made by an elastic rubber material for providing a better waterproof effect.

Referring to FIG. 5, the present invention can be used for a double-layer airtight glass 60 whose upper and lower layers are coupled with an aluminum alloy lump 64 and an airtight strip 66, and an internal space 62 is formed within the two layers of the airtight glass 60. The internal space 62 of the airtight glass 60 can be a vacuum or filled with a gas for isolating noises and absorbing ultraviolet rays, and thus it is necessary to maintain a good airtight effect. The fixing device of the invention can clamp the airtight glass 60 and mount the airtight glass 60 onto the scaffold without damaging the air-tightness.

In summation of the description above, the pressing portion 11 and the pressing ring 20 clamp and press the glass 40 or the airtight glass 60 tightly, and the elasticity and deformation of the flange 12 can form a sealed leak-resistant structure, and thus the present invention constitutes a glass curtain that can provide a good waterproof effect or can prevent the airtight glass 60 from leaking air, so as to meet the user requirements.

While the invention has been described by means of specific embodiments, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention set forth in the claims.

What is claimed is:
1. A glass curtain fixing device, for clamping and supporting a glass having at least one through hole and mounted onto a scaffold, comprising:
   a base, being a lump, and having a pressing portion transversely and circularly extended from an end of said base, and said base being coupled to said through hole of said glass and said pressing portion being separated by a pad and pressing against a distal surface of said glass, and said pressing portion having at least one elastic flange disposed around the surface of said glass;
   a pressing ring, separated by another pad and pressing against another distal surface of said glass and coupled to said base, for clamping and pressing said glass with said pressing portion; and
   a propping rod, with an end coupled to said base, and another end coupled to said scaffold.
2. The glass curtain fixing device of claim 1, wherein said pad comprises an elastic flange disposed around the surface of said glass.
3. The glass curtain fixing device of claim 2, wherein said flange of said pad is made of rubber.
4. The glass curtain fixing device of claim 1, wherein said flange of said pressing portion is made of rubber.
5. The glass curtain fixing device of claim 1, further comprising a cushion disposed between said base and said through hole of said glass.

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