CLAIMS

1. A virtual reality head-mounted apparatus, comprising:

a main body, the main body being provided with a convex lens; and

a partial-reflection partial-transmission lens for reflecting infrared light provided in the main body, the partial-reflection partial-transmission lens being located on a side of the convex lens closer to a user, wherein the partial-reflection partial-transmission lens comprises an upper lens structure and a lower lens structure joint with each other; and

a first camera and a second camera, wherein the first camera is located at a top of the main body and a lens of the first camera is disposed obliquely downward corresponding to the upper lens structure, and the second camera is located at a bottom of the main body and a lens of the second camera is disposed obliquely upward corresponding to the lower lens structure, and

wherein a lens surface of the upper lens structure facing the user is inclined upward to reflect an infrared image of an eye of the user to the first camera, and a lens surface of the lower lens structure facing the user is inclined downward to reflect an infrared image of the eye of the user to the second camera.

2. The apparatus according to claim 1, wherein the partial-reflection partial-transmission lens has a high transmittance for visible light and a low transmittance for infrared light.

3. The apparatus according to claim 1, wherein the partial-reflection partial-transmission lens comprises an infrared dichroic mirror.

4. The apparatus according to claim 1, wherein the first camera and the second camera are located outside a visible area of the convex lens with respect to the user.

5. The apparatus according to claim 1, wherein the upper lens structure and the lower lens structure are symmetrical with respect to a horizontal plane.

6. The apparatus according to claim 1, further comprising:

a protective frame, the protective frame forming an accommodating space adapted to the partial-reflection partial-transmission lens and the convex lens, so as to accommodate and fix the

partial-reflection partial-transmission lens and the convex lens.

7. The apparatus according to claim 1, further comprising:

an adjustment component, the adjustment component performing angle adjustment on the first camera and the second camera, such that the lenses of the first camera and the second camera are kept toward virtual images of the infrared images of the eye formed in, respectively, the upper lens structure and the lower lens structure of the partial-reflection partial-transmission lens.