CLAIMS

1. An optical method for inspecting a transparent plate that includes a first face to be inspected and a second face, the optical method comprising the steps of:

providing a light source near the first face of the transparent plate, wherein the light source casts incident light onto the first face of the transparent plate at an incident angle of 27 to 33 degrees;

providing a photo sensor near the first face of the transparent plate, wherein the photo sensor receives light from the first face of the transparent plate;

providing a grating between the first face of the transparent plate and both of the light source and the photo sensor, wherein the grating comprises an incident passageway and a reflection passageway, wherein the incident light reaches the first face of the transparent plate through the incident passageway, wherein only primary reflected light from the first face of the transparent plate reaches the photo sensor through the reflection passageway while secondary reflected light and any other light reflected from the second face of the transparent plate and refracted by the first face of the transparent plate is blocked by the grating, wherein the reflection passageway is made with width smaller than distance between the primary reflected light and the secondary reflected light; and

moving the transparent plate relative to the light source, the photo sensor and the grating, thereby scanning the entire first face to determine whether there is any stain on the first face.

2. The optical method according to claim 1, wherein the incident passageway is made with width of 0.1 to 0.5 mm.

3. The optical method according to claim 1, wherein the width of the reflection passageway is 0.2 to 20 mm.

4. An optical system for inspecting a transparent plate that includes a first face to be inspected and a second face, the optical system comprises a light source for casting light onto the first face of the transparent plate at an incident angle of 27 to 33 degrees, a photo sensor for receiving light from the first face of the transparent plate, a grating for blocking some of the light from the first face of the transparent plate;

wherein the photo sensor continuously scans regions of the first face of the transparent plate when the transparent plate is moved relative to the light source, the photo sensor and the grating;

wherein the light source and the photo sensor are located on a side of the grating while the transparent plate is located on another side of the grating;

wherein the grating comprises an incident passageway and a reflection passageway, wherein the incident light reaches the first face of the transparent plate through the incident passageway, wherein only primary reflected light from the first face of the transparent plate reaches the photo sensor through the reflection passageway while secondary reflected light and any other light reflected from the second face of the transparent plate and refracted by the first face of the transparent plate is blocked by the grating, wherein the reflection passageway is made with width smaller than

distance between the primary reflected light and the secondary reflected light.

5. The optical system according to claim 4, wherein the incident passageway is made with width of 0.1 to 0.5 mm.

6. The optical system according to claim 4, wherein the width of the reflection passageway is 0.2 to 20 mm.