What is claimed is:

1. A display device, applied to a rear projection system, comprising:

a screen, which is curved; incident rays penetrating into a concave side of the screen, then being transmitted by the screen, and form parallel rays to be emitted out from a convex side of the screen ;

a projecting unit, configured to project rays of an image to the screen, the image including a valid area and an invalid area;

a covering plank, located between the screen and the projecting unit, configured to cover the invalid area of the image for getting the light of the valid area of the image emitted by the projecting unit to project to the screen;

wherein a center area of the covering plank is a hollow area, and a plurality of covering planks with increasing size of the hollow areas in sequence are positioned between the projecting unit and the screen equidistantly for eliminating the invalid area of the image.

2. The display device as claimed in Claim 1, wherein the screen is made from translucent resin.

3. The display device as claimed in Claim 1, wherein the projecting unit is a silicon based liquid crystal projecting unit or a digital light procession projecting unit.

4. The display device as claimed in Claim 1, wherein the plurality of covering planks are arranged between the projecting unit and the screen in parallel and in sequence, with an orientation along a direction of emitting light of the image emitted by the projecting unit, for covering the invalid area of the image.

5. The display device as claimed in Claim 1, wherein the projecting unit comprises:

a receiver module, for receiving projected images.

a projector module, connecting to the receiver module, configured to project lights of the projected images to the screen