We Claim

1. A screen panel with wear protective apertures for mining and quarrying industries adapted to be mounted on a screen deck, including a screening surface made up of materials such as herein described formed on a reinforcing frame, said screening surface having suitably designed apertures of desired shape for allowing materials of desired size to pass through, said apertures having walls made of abrasion resistant material such as herein described, said walls having plurality of slits cut along the vertical as well as horizontal line in the top and bottom portion of the apertural walls, whereby utmost flexibility of the apertures is ensured, simultaneously ensuring wear protection.

2. The screen panel as claimed in claim 1, wherein said abrasion resistant material includes metallic lining along walls of said apertures.

3. The screen panel as claimed in claim 1, wherein said abrasion resistant material includes anyone of or a combination of ceramics and cryston.

4. The screen panel as claimed in claim 1 wherein said walls with said slits along the vertical as well as horizontal line are adapted to be bonded to the inner wall of said apertures to form an integral resilient joint, said apertures having flaring and/or step design.

5. The screen panel as claimed in claim 4 wherein said slits are disposed along the entire length of the concerned said wall or along only a portion of it, such that the length of the slits on the lining of said wall is variable and or/fixed.

6. The screen panel as claimed in any preceding claim, wherein said screening surface, other than said apertures, are made of any one of or a combination of mild steel, stainless steel, rubber and/or polyurethane with or without steel reinforcing.

7. The screen panel as claimed in any preceding claim 6, wherein said panel comprises of vulcanized material, rubber polyurethane, having embedded within it steel reinforcing bars, at the outer edges of said panel and extended across the inner area of said panel, thereby providing support to said screening surface.

8. A method of manufacturing a screen panel with wear protective apertures for mining and quarrying industries adapted to be mounted on a screen deck, including designing a screening surface made up of materials such as herein described formed on a reinforcing frame, said method further including making suitably designed apertures of desired shape on said screening surface, for allowing materials of desired size to pass through wherein the apertural walls are made of abrasion resistant material such as herein described and a plurality of slits are cut along the vertical as well as horizontal line in the top and bottom portion of the apertural walls, whereby utmost flexibility of the apertures is ensured simultaneously ensuring wear protection.

9. The method as claimed in claim 8 wherein said slits are either cut along the entire length of the concerned wall or along only a portion of it such that lengths of said slits are variable and/or fixed and said walls with said slits along the vertical as well as horizontal line are bonded to the inner wall of said apertures to form an integral resilient joint, said apertures being shaped to have a flaring and/or stepped design.

10. A screening deck for mining and quarrying industries, having mounted thereon a plurality of screen panels with wear protective apertures, each said panel including a screening surface made up of materials such as herein described formed on a reinforcing frame, said screening surface having suitably designed apertures of desired shape for allowing materials of desired size to pass through, said apertures having walls made of abrasion resistant material such as herein described said walls having plurality of slits cut along the vertical as well as horizontal line in the top and bottom portion of the apertural walls, whereby utmost flexibility of the apertures is ensured simultaneously ensuring wear protection.

WE CLAIM

1. A screen panel with wear protective apertures for mining and quarrying industries adapted to be mounted on a screen deck, including a screening surface made up of materials such as herein described formed on a reinforcing frame, said screening surface having suitably designed apertures of desired shape for allowing materials of desired size to pass through, said apertures having walls including a plate made of abrasion resistant material such as herein described, said plate having plurality of notches cut along the vertical as well as horizontal line in the top and bottom portion of said plate, wherein a first and a second notch are separated by a portion of the plate extending vertically between the first and second notches, whereby utmost flexibility of the apertures is ensured, simultaneously ensuring wear protection.

2. The screen panel as claimed in claim 1, wherein said abrasion resistant material includes metallic lining along walls of said apertures.

3. The screen panel as claimed in claim 1, wherein said abrasion resistant material includes anyone of or a combination of ceramics and cryston.

4. The screen panel as claimed in claim 1, wherein said plates with said notches along the vertical as well as horizontal line are adapted to be bonded to the inner wall of said apertures to form an integral resilient joint, said apertures being stepped apertures.

5. The screen panel as claimed in claim 4, wherein said notches are disposed along the entire length of the concerned said plate or along only a portion of it such that the length of the notches on the lining of said plate is variable and /or fixed.

6. The screen panel as claimed in claim 1, wherein said screening surface, other than said apertures, are made of any one of or a combination of mild steel, stainless steel, rubber and/or polyurethane with or without steel reinforcing.

7. The screen panel as claimed in claim 1, wherein said panel comprises of vulcanized material, rubber polyurethane, having embedded within it steel reinforcing bars, at the outer edges of said panel and extended across the inner area of said panel, thereby providing support to said screening surface.

8. A method of manufacturing a screen panel with wear protective apertures for mining and quarrying industries adapted to be mounted on a screen deck, including designing a screening surface made up of materials such as herein described formed on a reinforcing frame, said method further including making suitably designed apertures of desired shape on said screening surface for allowing materials of desired size to pass through, wherein the apertural walls include a plate made of abrasion resistant material such as herein described; and notching the plate at opposed vertical end portions of the plate, whereby utmost flexibility of the apertures is ensured simultaneously ensuring wear protection.

9. The method as claimed in claim 8, wherein said notches are either cut along the entire length of the plate or along only a portion of it such that lengths of said notches are variable and/or fixed and said plates with said notches along the vertical as well as horizontal line are bonded to the inner wall of said apertures to form an integral resilient joint, said apertures being shaped to have a stepped design.

10. A screening deck for mining and quarrying industries, having mounted thereon a plurality of screen panels with wear protective apertures, each said panel including a screening surface made up of materials such as herein described formed on a reinforcing frame, said screening surface having suitably designed apertures of desired shape for allowing materials of desired size to pass through, said apertures having plates made of abrasion resistant material such as herein described, said plates having a plurality of notches cut along the vertical as well as horizontal line in the top and bottom portion of plate, wherein a first and a second notch are separated by a portion of the plate extending vertically between the first and second notches, whereby utmost flexibility of the apertures is ensured simultaneously ensuring wear protection.

11. A screen panel as recited in claim 1, wherein the first and second notches are bounded on three sides by the plate.

12. A screen panel as recited in claim 1, wherein the first notch is open at its top end and spanned at its lower end by the plate.

13. A screen panel as recited in claim 1, wherein the second notch is open at its bottom end and spanned at its upper end by the plate.

14. A screen panel as recited in claim 1, wherein the plate extends about the aperture wall such that opposite ends of the plate face one another.