All through out the specification including the claims, the words "screen panel", "screen deck" "mining", "quarrying", "mineral", "ores", "walls", "button", "screening surface", "screening deck", are to be interpreted in the broadest sense of the respective terms and includes all similar items in the field known by other terms, as may be clear to persons skilled in the art. Restriction/limitation, if any, referred to in the specification, is solely by way of example and understanding the present invention.

OBJECTS OF THE INVENTION

It is the principal object of the present invention to provide a screen panel with improved apertures, for its application in mining and quarrying industries, which is adapted to prevent/substantially reduce the clogging of screen panels, thereby increasing the life of the panel.

It is a ~~further~~ preferred object of the present invention to provide a screen panel with improved apertures having a substantially higher longevity and adapted to create extra degree of freedom during screening operation.

It is a further preferred object of the present invention to provide a screen panel having flexible aperture walls, thereby facilitating the mineral ores to pass through the apertures easily and also ensuring prevention of clogging.

It is another preferred object of the present invention to provide a method for manufacturing a a screen panel with improved apertures, for its application in mining and quarrying industries, which is adapted to prevent/substantially reduce clogging of materials pursuant to screening operations.

It is a further preferred object of the present invention to provide a screening deck for its application in the mining and quarrying industry, having mounted thereon a plurality of screen panels with improved protective apertures, for its application in mining and quarrying industries, which is adapted to prevent/substantially reduce the clogging of materials pursuant to screening operations thereby increasing the life of the panels.

How the foregoing preferred objects are achieved and the other aspects of the present invention, will be clear from the following description which is purely by way of understanding and not by way of any sort of limitation.

SUMMARY OF THE INVENTION

Accordingly, the present invention provides a screen panel with improved 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 screen panel having suitably designed apertures for allowing materials to pass through, said apertures having resilient ribs with protrusions on both sides configured with respect to each other such that adequate open space exists, whereby clogging of materials pursuant to screening operations are substantially reduced.

In accordance with preferred embodiments of the screen panel of the present invention:

-said protrusions are configured about said ribs such that contact between said protrusions and said ribs are avoided,

-said ribs and protrusions are arranged in a manner such that openings are created through which materials can smoothly pass through,

-said protrusions are disposed on right and left side of said ribs,

-said ribs have adequate resilience to be deformed for ensuring passing of materials there through,

-said panel comprises of vulcanized material, rubber or polyurethane, having pin and lug type fixing or button type fixing,

-said ribs and said protrusions are made of polyurethane or rubber and the securing means is made of steel in case of button type or bolt down fixing or may be made of Polyurethane or any other material.

We Claim

1. A screen panel with improved apertures for mining and quarrying industries adapted to be mounted on a screen deck, including a screening surface made up of deformable materials ~~such as herein described~~ formed on a reinforcing frame, ~~said~~ the screen panel having suitably designed apertures for allowing materials to pass through, wherein ~~said~~ the apertures ~~having~~ are formed by resilient ribs with resilient protrusions on ~~both sides~~ the ribs extending from opposed sides of the ribs in the screening surface, adjacent ribs and protrusions being configured with respect to each other such that adequate open space exists, whereby clogging of materials pursuant to screening operations ~~are~~ is substantially reduced.

2. The screen panel as claimed in claim 1, wherein ~~said~~ the protrusions are configured about ~~said~~ the ribs such that contact between ~~said~~ adjacent protrusions and ~~said~~ the ribs ~~are~~ is avoided.

3. The screen panel as claimed in claim 1, wherein ~~said~~ the ribs and the protrusions are arranged in a manner such that openings are created through which materials can smoothly pass through.

~~4. The screen panel as claimed in claim 1 wherein said protrusions are disposed on right and left side of said ribs.~~

~~5~~4. The screen panel as claimed in any preceding claim wherein ~~said~~ the ribs have adequate resilience to be deformed for ensuring passing of materials ~~there~~ through the apertures.

~~6~~5. The screen panel as claimed in any preceding claim wherein ~~said~~ the panel is ~~comprises~~ comprised of vulcanized material, rubber or polyurethane, and having pin and lug type fixing or button type fixing to the screen deck.

~~7~~6. The screen panel as claimed any preceding claim wherein ~~said~~ the ribs and ~~said~~ the protrusions are made of polyurethane or rubber, the ribs are reinforced with polymeric cord, and ~~the~~ securing means to secure the screening surface to the screen deck is made of steel or any other material.

~~8~~7. A method of manufacturing a screen panel with improved apertures for mining and quarrying industries adapted to be mounted on a screen deck, including making suitably designed apertures in a screening surface made up of deformable materials on a reinforcing frame for allowing materials to pass through, said method further including designing the apertures with resilient ribs with resilient protrusions on the ribs extending from opposed sides of the ribs in the screening surface, with adjacent ribs and protrusions ~~on both sides~~ being configured with respect to each other, such that adequate open area is created, whereby clogging of materials pursuant to screening operation is substantially reduced.

~~9~~8. The method as claimed in claim~~s 8~~ 7 comprising arranging ~~said~~ the ribs and protrusions in a manner such that there is no contact with each other.

~~10~~9. A screening deck for mining and quarrying industries, having mounted thereon a plurality of screen panels ~~with improved apertures~~ as claimed in any one of claims 1 to 6, each ~~said~~ screen panel being adapted to be mounted on ~~a~~ the screen deck.~~,~~ ~~including a screening surface made up of materials such as herein described formed on a reinforcing frame, said screen panel having suitably designed apertures for allowing materials of to pass through, said apertures having resilient ribs with proportions on both sides configured with respect to each other such that adequate open space exists, whereby clogging of materials pursuant to screening operations are substantially reduced.~~