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F. J. O'BRIEN

2,391,501

SCREEN PLATE

Filed June 22, 1944

Fig. 1.

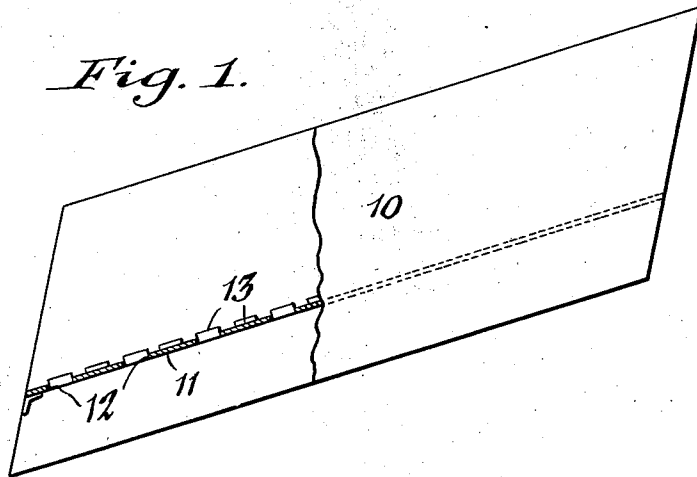


Fig. 2.

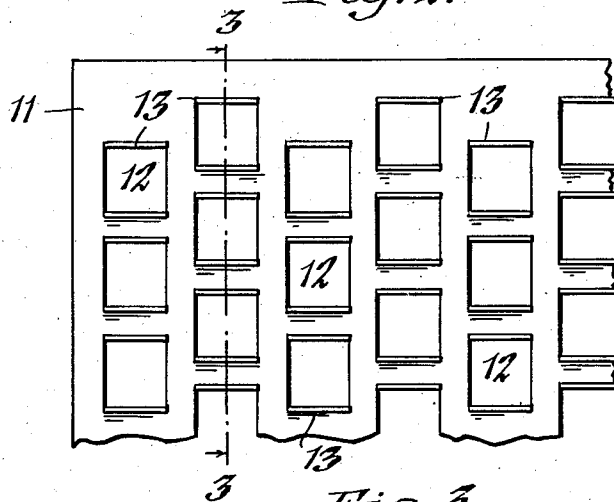


Fig. 3.

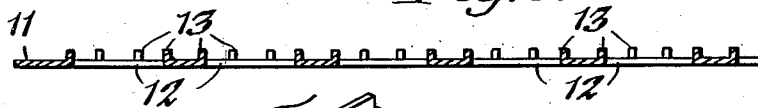
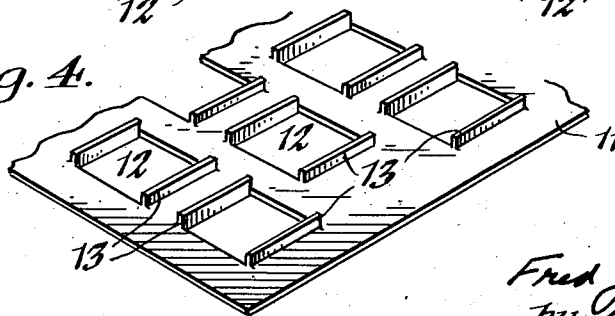


Fig. 4.



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UNITED STATES PATENT OFFICE

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SCREEN PLATE

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Application June 22, 1944, Serial No. 541,556

1 Claim. (Cl. 209—397)

This invention relates generally to the art of screening but more particularly to certain new and useful improvements in screen plates.

It has for one of its objects to provide a plate of this character for screening machines which is simple and inexpensive in construction and which is so designed as to withstand maximum wear and provide for a thorough tumbling or turning over action of the material to insure efficient screening results.

Another object of the invention is to provide a screen plate having rows of punched holes therein whose opposite side edges extending lengthwise of the screen are provided with turned-up rims or flanges which project above the surface of the screen plate and intercept and deflect the material vertically and laterally as it flows over the plate.

Other features of the invention reside in the construction and arrangement of parts herein-after described and particularly pointed out in the appended claim.

In the accompanying drawing:

Figure 1 is a sectional side elevation of a screen body or frame having my improved screen plate installed thereon. Figure 2 is an enlarged fragmentary top plan view thereof. Figure 3 is an enlarged cross section taken on line 3—3, Figure 2. Figure 4 is a fragmentary perspective view of the screen plate.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring now to the drawing, 10 indicates a vibrating screen frame of any ordinary construction and 11 indicates my improved screen plate or deck mounted in any suitable manner on such frame, it being understood that the material is delivered to the upper or right hand end of the screen frame and flows downwardly thereover with the minus material delivered below the screen plate and the positive material delivered over the lower or left hand end of the frame.

The screen plate consists of a sheet-like body of metal or other appropriate material having

rows of holes or openings 12 formed therein by punching or the like, the rows being preferably in parallel relation crosswise of the screen with the holes in one row being in offset or staggered relation to the holes of adjoining rows, as shown in Figures 2 and 4. These holes are substantially square or rectangular in shape and are uniformly spaced, and at those opposite side edges thereof extending lengthwise of the screen or parallel to the flow of the material thereover are upright flanges or rim-like projections 13 which extend slightly above the surface of the screen plate. By preference, these flanges are formed integrally with and bent upwardly from the screen plate and are of the same lengthwise dimension as the holes. It will be noted that the opposing flanges of a pair of holes in one row are centrally aligned with the holes in adjoining rows, thereby allowing the plus or oversize material to slide quickly over the screen plate and prevent its plugging.

While manifestly simple in construction, this screen plate is efficient in operation, its rim-like projections guide the material in a straight path in the direction of flow thereof and impart sufficient action to the material to keep it turning over and over and effecting complete separation or screening of the minus material from the coarse or plus material. Furthermore, the projections afford increased wear to the screen plate and do effectually promote the quick movement of the plus material to the discharge end of the screen frame.

I claim as my invention:

A screen plate of the character described, comprising a sheet metal body having rows of holes formed therein and with the holes in one row disposed in staggered relation to the holes in an adjoining row, each hole being substantially rectangular in shape with those edges thereof in staggered relation being provided with flanges rising therefrom above the surface of the body and extending lengthwise thereof in the edgewise path of flow of the material.

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