J. A. PARADINE.

SCREEN.

APPLICATION FILED APR. 17, 1914.

1,127,502. Patented Feb. 9, 1915.

Fig. 1.

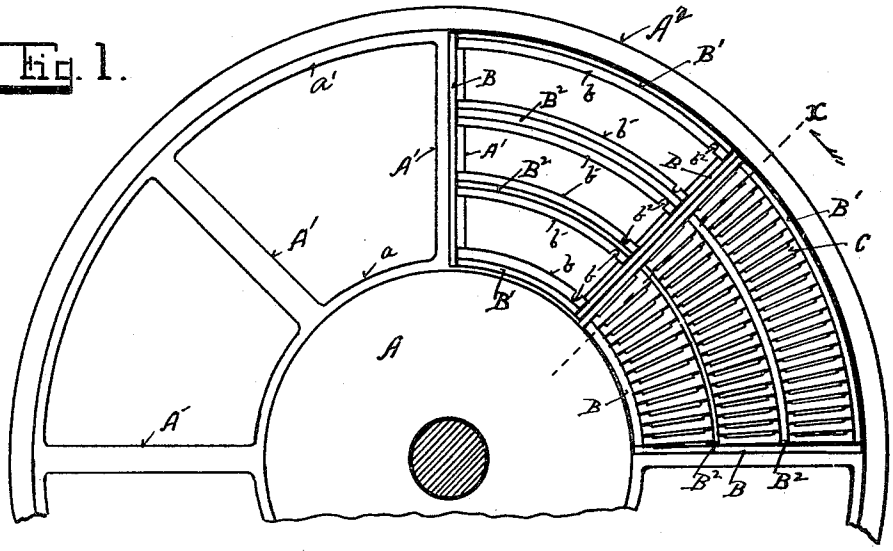


Fig. 2. Fig. 3. Fig. 4.

Fig. 5.

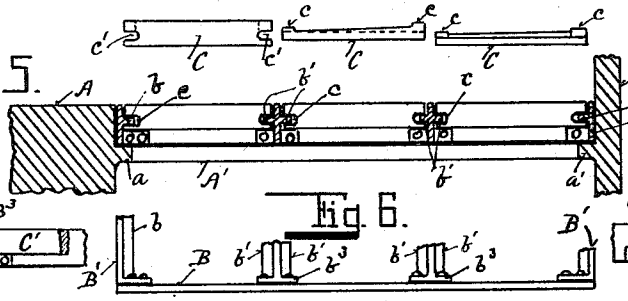


Fig. 9



Fig. 6.



Fig. 8.

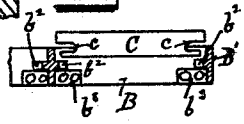


Fig. 10.

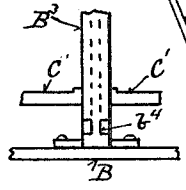
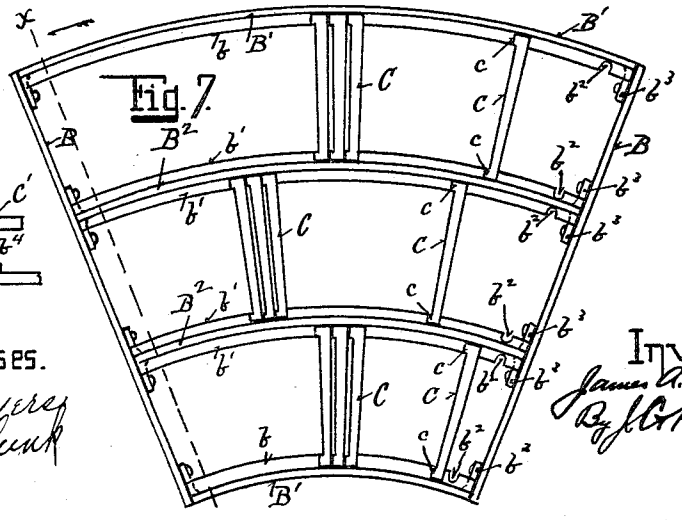


Fig. 7.



Witnesses.

E. E. Myers

Roy J. Clench

Inventor.

James A. Paradine

By J. C. Hollingsworth

attys.

THE NORRIS PETERS CO. PHOTO-LITHO., WASHINGTON.

# UNITED STATES PATENT OFFICE.

JAMES A. PARADINE, OF ERIE, PENNSYLVANIA.

## SCREEN.

1,127,502. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed April 17, 1914. Serial No. 832,503.

*To all whom it may concern:*

Be it known that I, JAMES A. PARADINE, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Screens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to clay working machinery, and particularly to what is known to the trade as "dry-pans," in which dry material is pulverized. In machines of this type there is provided a rotary pan-like structure which has a central plate upon which the material is crushed and pulverized, and from which it is carried by centrifugal force onto an annular screen, which is composed of segments supported upon spokes which are practically integral with said plates and having an upturned rim around their outer ends, so that said screen segments rest upon said spokes between the periphery of said plate and said rim. These screen segments as heretofore constructed frequently have to be removed, owing to the breaking out of the bars, from one cause or another, thereby causing loss of time and the large expense of new screen segments.

The object of my invention is to make a skeleton segmental frame to take the place of the old segmental screen plate, and have such frame adapted to receive series of screen-bars, so that when said frame is filled with screen-bars, it will furnish a perfect screen surface for the purpose desired, and when one or more bars are broken by accident, another bar can be placed in said frame, thereby filling the vacancy caused by the broken bar, without removing an entire screen segment, as was necessary prior to my invention.

The features of my invention are hereinafter fully set forth and pointed out, and are illustrated in the accompanying drawings in which:

Figure 1, is a plan view of a fragment of a dry-pan, showing one of my improved screen segments in place therein and one of my skeleton screen frames in place. Fig. 2, is a side elevation of one of my improved screen-bars. Fig. 3, is a top edge view of the same. Fig. 4, is a bottom edge view of the same. Fig. 5, is an enlarged radial section on the line $x$, in Fig. 1, looking in the direction of the arrow. Fig. 6, is a fragmentary view of one of the skeleton frames showing the manner of its construction. Fig. 7, is an enlarged plan view of one of the skeleton screen frames in process of being filled with screen bars. Fig. 8, is a fragmentary view of the same, showing a screen-bar being placed therein. Fig. 9, is a fragmentary view of the same showing a modified construction of the screen-bar securing means. Fig. 10, is a top or plan view of the same.

In these drawings A, indicates the pulverizing plate, of a dry-pan, A′, indicates radial spokes thereon, and $A^2$, indicates the peripheral rim of said pan, $a$ and $a'$, indicate flanges extending between the inner and outer ends of said spokes. Upon the spokes A′, and flanges $a$ and $a'$, I place segmental frames composed of radial bars B B between which bars are secured segmental flanged bars B′ B′, and $B^2$ $B^2$, the segmental bars B′, being provided with a single flange $b$ $b$, and the segmental bars $B^2$ $B^2$, being each provided with two flanges $b'$ $b'$, said flanges being provided with notches $b^2$. These segmental bars B′ and $B^2$, being provided with ears $b^3$, below the flanges $b$ and $b'$, by which said segmental bars may be riveted to the radial bars B B. The ears $b^3$, are placed below the flanges $b$ and $b'$, in order that they will not interfere with the screen bars hereinafter described.

For filling the spaces between the segmental bars B′ and $B^2$, I provide screen bars C, which are provided at each end thereof with shoulders $c$, adapted to space the intermediate portions of said bars apart, as shown in Figs. 1 and 7, the intermediate portions of said bars C, between shoulders $c$, $c$, being preferably thinner at the lower edge than at the upper edge. In the ends of these bars C, I make slots $c'$ $c'$, which are adapted to receive the flanges $b$, and $b'$, on the segmental bars B′ and $B^2$, thereinto. In placing these bars C, in the skeleton frame, the ends thereof are dropped down through the notches $b^2$ $b^2$, in the flanges $b$ and $b'$, on the segmental bars B′ and $B^2$, and then are moved toward the opposite side of the frame

with the flanges $b$ and $b'$, in the slots $c'$ $c'$, thereby preventing the bars C, from being raised upward in said frame.

In Figs. 9 and 10, I show a modified construction of segmental bars $B^3$ and screen bars C', in which the sides of the segmental bars $B^3$, are cut away so that they will present mitered surfaces to the ends of the screen bars C', and the ends of the screen-bars C', are mitered to correspond therewith, so that said screen bars C', cannot be raised upward, off of the flanges $b$ and $b'$. I also provide notches $b^4$, in the mitered portion of the segmental bars B, to permit the ends of the screen-bars C, to be passed therethrough onto the flanges $b$ and $b'$.

From the foregoing it will be obvious that should a screen-bar C, be broken, the other screen-bars between the broken bar and the notches $b^2$ or $b^4$, can be moved to close the gap caused by the removal of the broken bar, and a new bar C, be placed in position, this again completing the screen. It will also be obvious from the foregoing, that the screen-bars C, can be furnished at a much less cost than can an entire segmental screen plate, and can be placed in position in the frame in much less time than is possible when an entire screen-plate has to be replaced.

Having thus fully shown and described my invention so as to enable others to construct and utilize the same, what I claim as new, and desire to secure by Letters-Patent, is:—

1. In a machine of the class described, a segmental frame composed of radial end bars, segmental connecting bars secured between said radial bars, flanges on said segmental bars, removable radial bars supported on said flanges, and means to prevent said removable bars from being raised off of said supporting flanges.

2. In a machine of the class described, a segmental frame composed of radial end bars, and segmental connecting bars secured between said radial bars, flanges on said segmental bars, radial screen-bars having slots in their ends supported on said flanges with said slots embracing said flanges, substantially as set forth.

3. In a machine of the class described, a segmental screen-frame having radial end bars and segmental connecting bars secured between said radial end bars, supporting flanges on said segmental connecting bars, having notches in the edges thereof, radial screen-bars adapted to be supported on said flanges, and means to prevent said bars from being raised off of said supporting flanges, substantially as described.

4. In a machine of the class described, a revolving pan, a pulverizing plate therein, radial arms thereon, a circumferential rim thereon, flanges between the inner and outer ends of said arms, segmental skeleton screen frames removably supported on said arms and flanges, and screen-bars removably secured in said segmental screen frames, substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES A. PARADINE.

Witnesses:
H. M. STURGEON,
E. E. MYERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."