

No. 831,936.

PATENTED SEPT. 25, 1906.

A. W. CRAWFORD.

SCREEN PLATE.

APPLICATION FILED AUG. 10, 1905.

Fig. I.

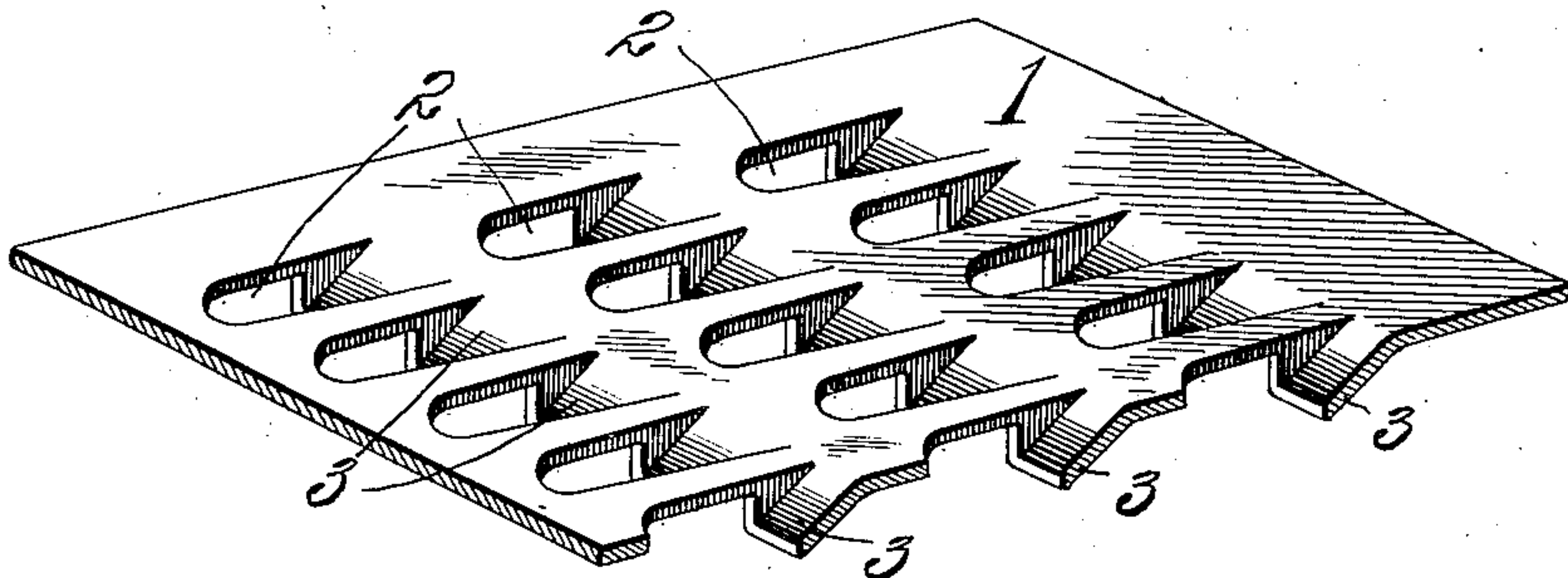


Fig. II.

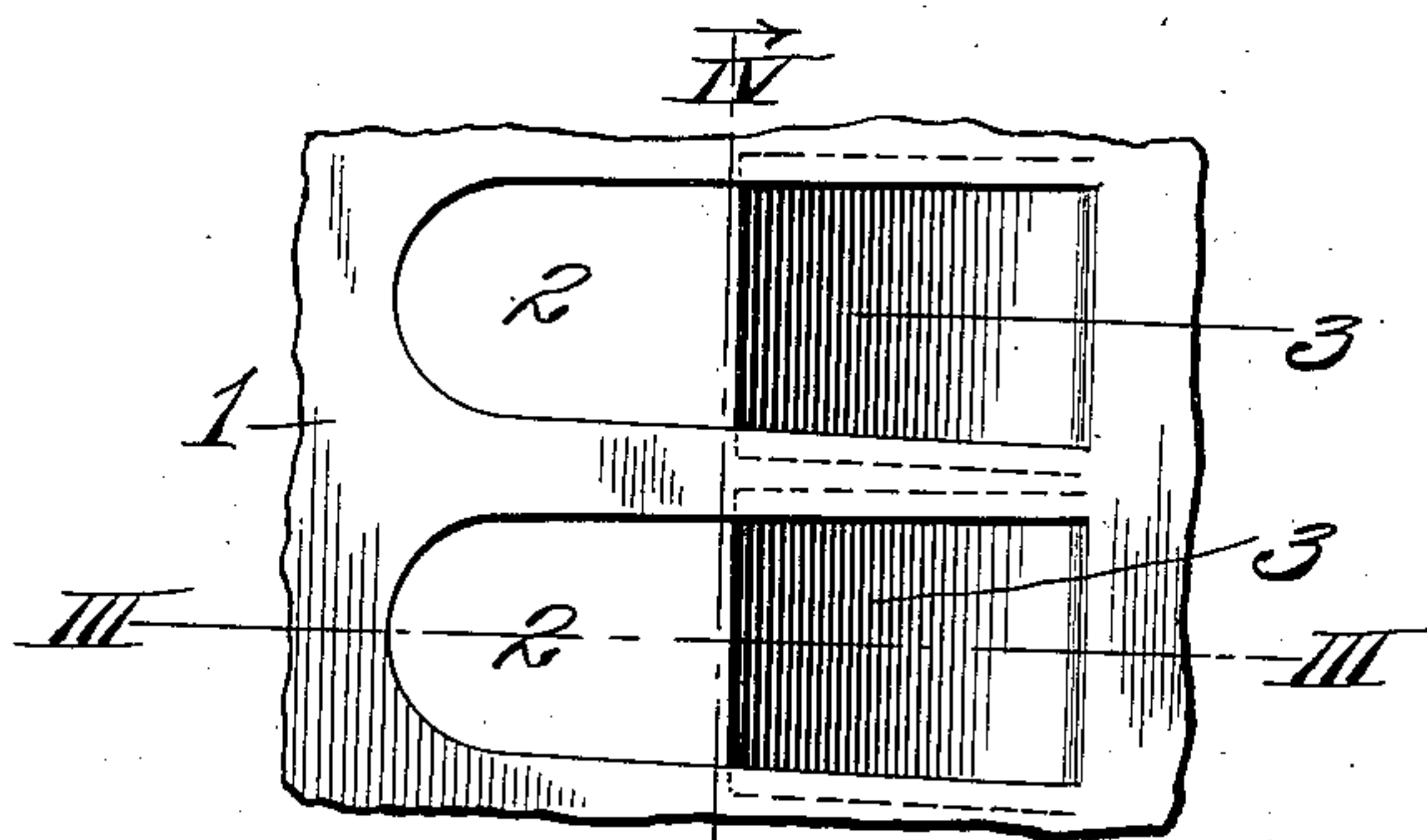


Fig. III.

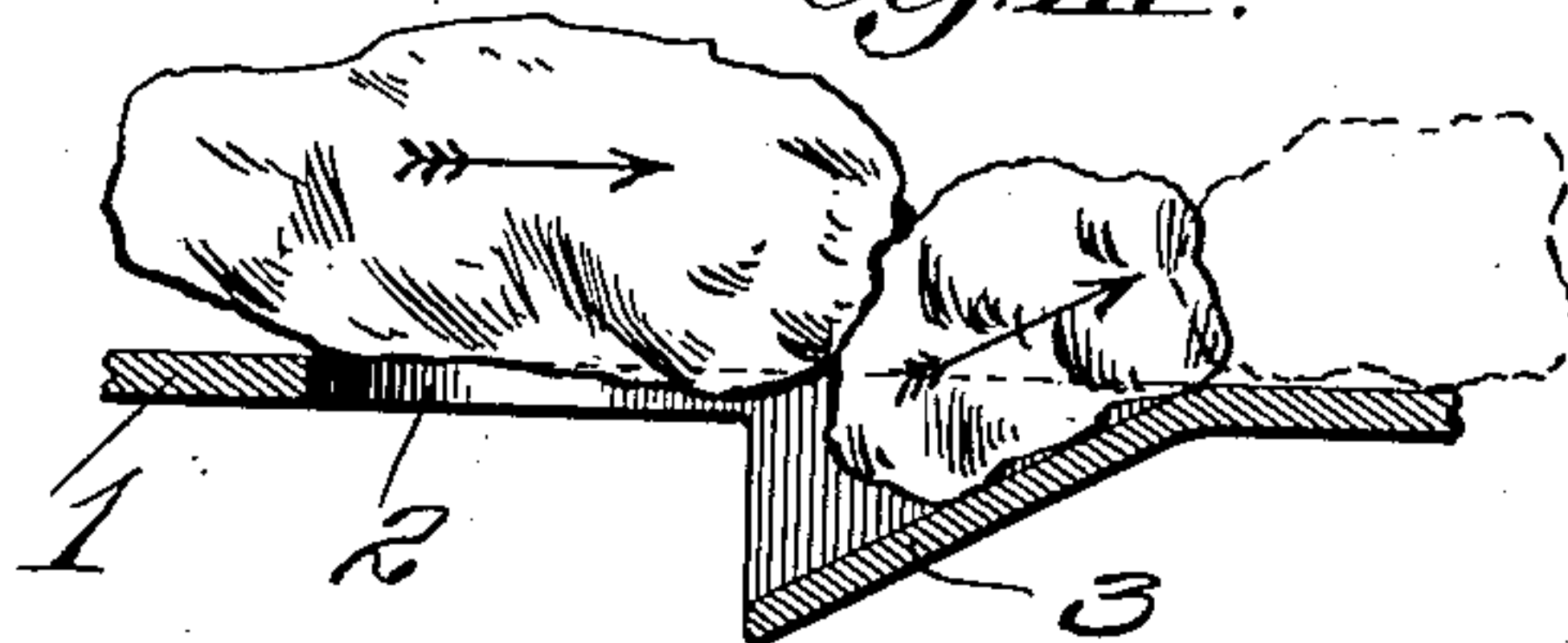
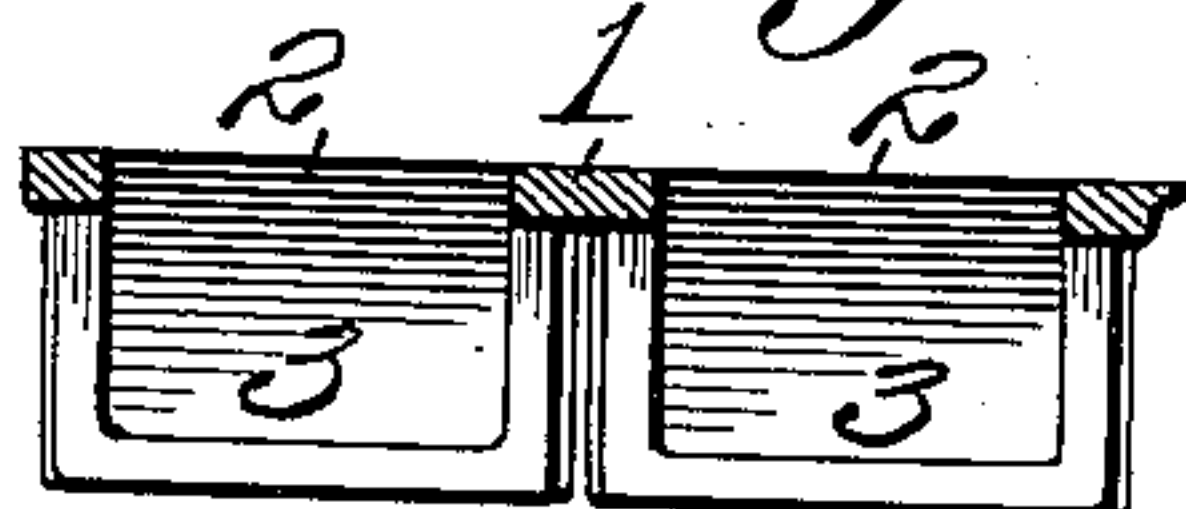


Fig. IV.



Attest:  
J. H. Scott  
Arthur V. Alexander

Inventor:  
A. W. Crawford,  
by K. M. Brown  
attys.



# UNITED STATES PATENT OFFICE.

ALEXANDER W. CRAWFORD, OF GIRARD, ILLINOIS.

## SCREEN-PLATE.

No. 831,936.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed August 10, 1905. Serial No. 273,503.

*To all whom it may concern:*

Be it known that I, ALEXANDER W. CRAWFORD, a citizen of the United States, residing in Girard, in the county of Macoupin, in the State of Illinois, have invented certain new and useful Improvements in Screen-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a screen-plate for use in screening lumpy materials, and is more particularly intended for utility in screening coal, the object of the invention being to provide a screen-plate in which the lumps of material being screened will not become clogged in the perforations of the screen if they are too great in size to pass through the perforations, but are susceptible of entering partly thereinto.

Figure I is a perspective view of a fragment of my screen-plate. Fig. II is an enlarged top or plan view of a fragment of the plate. Fig. III is a longitudinal section taken on line III III, Fig. II. Fig. IV is a cross-section taken on line IV IV, Fig. II, looking in the direction of the arrow crossing said line.

1 designates my screen-plate, which is provided with a plurality of perforations 2, which are preferably elongated longitudinally of the plate. Extending downwardly and rearwardly from the forward end of each perforation is an inclined runway 3, integral with the plate, that terminates in advance of the rear end of the perforation to a sufficient extent to permit of the lumps of material being screened passing through the perforations at the rear of said runways.

In the screening operation in the use of my screening-plate the lumps of material that are conveyed onto and along the screen-plate are brought to the perforations therein and the lumps of a size corresponding to or smaller than the wholly open portions of the perforations readily pass therethrough, while the lumps of greater size than the perforations are conveyed over the plate. In the passage of the large lumps over the plate many of them enter into the perforations, but cannot pass entirely therethrough, owing to their size. When these lumps enter the perforations, they are engaged, as seen in Fig.

III, by the lumps of material following them, and these following lumps press against the rear sides of the lumps caught in the perforations and force them up the inclined runways and out of the perforations, so that they will cease to clog the screen, as they would if allowed to remain caught therein.

The perforations 2 in the screen-plates are preferably of tapering form, as seen most clearly in Fig. II, they being wider at their rear ends than at their forward ends, whereby the lumps of material that enter into the perforations and are not susceptible of passing therethrough may move with greater ease toward the inclined runways 3 to travel up said runways in the manner described in order that they may be dislodged from the perforations and cease to clog them.

Another important feature in my screen-plate to which I wish to direct particular notice is that of the runways 3, being connected at their sides to the main body of the screen-plate, thereby producing troughs in which the coal that enters into the perforations and cannot pass through the screen-plate ride upwardly to be discharged from the perforations. If it were not for the provision of the side portions referred to, it would be possible for sharp portions of lumps of material being screened becoming clogged between the main body of the plate and the top sides of the runways, thereby defeating the purpose of said runways.

I claim as my invention—

A screen-plate for screening coal and similar lumpy material; the plate having perforations therein and being provided with straight inclined runways extending from the plate downwardly through the perforations; said runways extending approximately half the length of the perforations and having vertical side walls extending upwardly to the plate and approximately half the length of the perforations, whereby a clearance-space of approximately half the perforation is provided between the lower end of the runway and one end of the perforation.

ALEXANDER W. CRAWFORD.

In presence of—

LOUIS F. LUMAGHE,

JAMES J. O'DONNELL.