

P. BAUR.  
 METHOD OF NARROWING SLITS PUNCHED IN PLATES OF HARD METAL.  
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965,855.

Patented Aug. 2, 1910.

Fig. 1

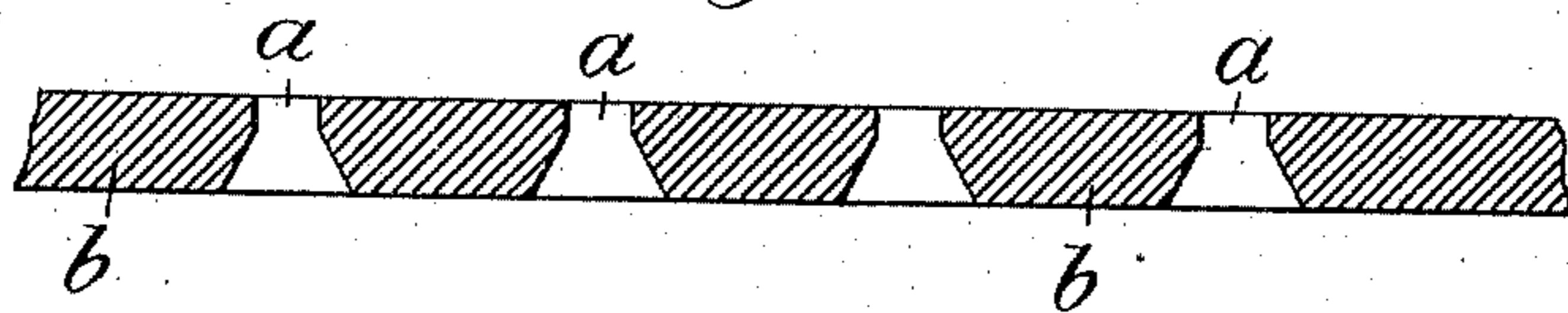


Fig. 2

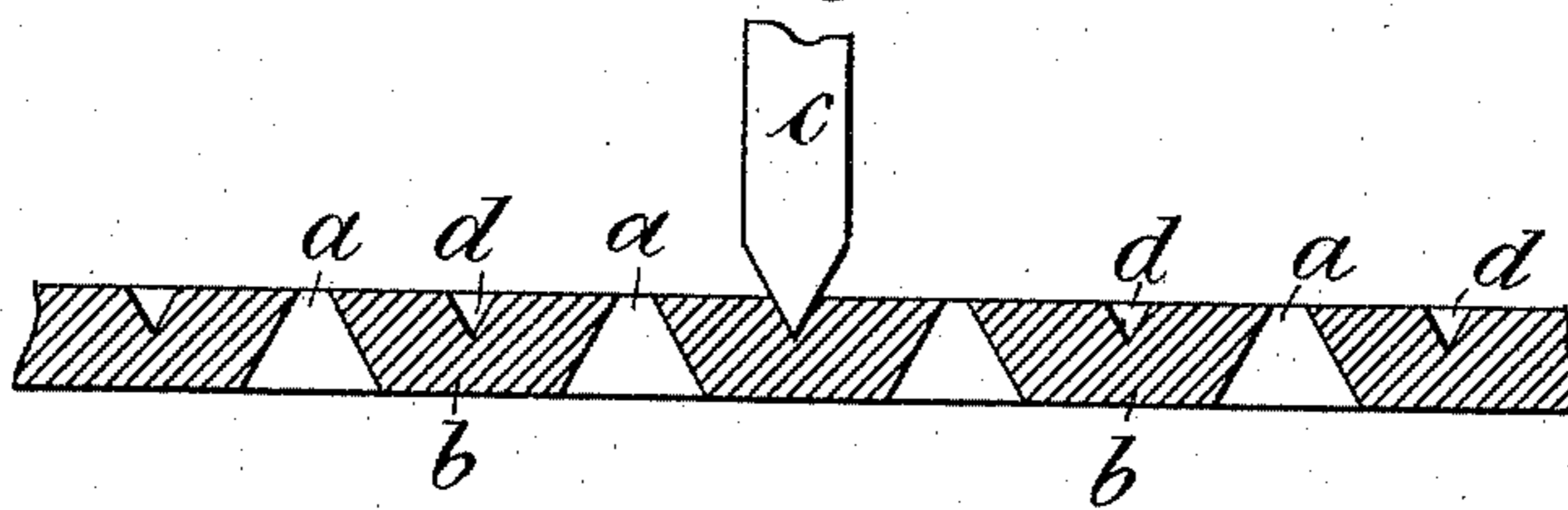
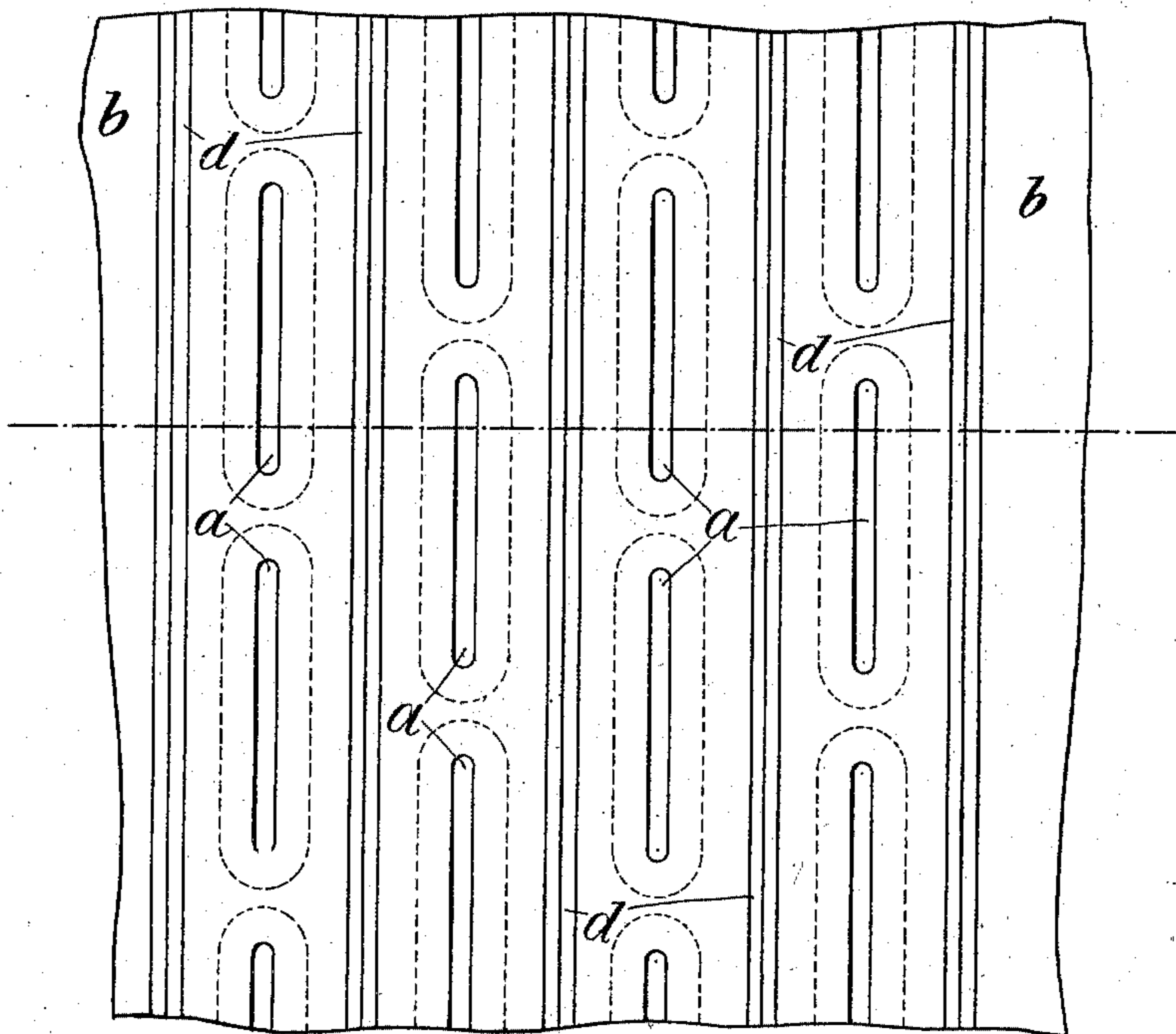


Fig. 3



Witnesses  
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# UNITED STATES PATENT OFFICE.

PAUL BAUR, OF BRUGG, SWITZERLAND.

METHOD OF NARROWING SLITS PUNCHED IN PLATES OF HARD METAL.

965,855.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed August 28, 1908. Serial No. 450,777.

*To all whom it may concern:*

Be it known that I, PAUL BAUR, a citizen of the Republic of Switzerland, residing at Brugg, in the Canton of Aargau, Republic of Switzerland, (whose post-office address is Brugg,) have invented a certain new and useful Method of Narrowing Slits Punched into Plates of Hard Metal; 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 letters of reference marked thereon, which form a part of this specification.

The grids, or gratings of steel plate, used in edge-runner mills generally become useless by bending or breaking even when they are made of the best material. For this reason plates of the greatest possible thickness compatible with the stamping out of slits or apertures of a certain width are selected. The thicker the plate the wider must the slits be, in consequence of the greater size of the stamping dies employed.

In plate of the thickness hitherto employed, the slits are of such width as to permit the passage of large foreign bodies (such as stones, etc.) and hence the loam or clay cannot be manipulated in a perfect manner; stamping tools of the thinness necessary to give the desired width of slit, to such plate, would be so weak as to be liable to break during the stamping operation.

The present invention relates to a method by means of which the apertures of the slits may be narrowed, notwithstanding that stamping tools of the usual size (*i. e.* strong enough to resist breakage) are employed. The invention enables any foreign bodies such as stones, etc., present in the loam or clay and hitherto able to pass through the slits, to be got rid of and permits of the use either of plates much thicker than those now used, or of the perforation of plates of the usual thickness with narrower slits. Hence gratings whether flat or cylindrical, acted on according to the method hereinafter de-

scribed produce a superior result, and in gratings made according to the new method the jamming of stones and the friction of the loam or clay on the sides of the slits are prevented. The surface of the gratings is at the same time roughened which has for effect to prevent the loam or clay from slipping. Slits that have become widened in course of time can be again narrowed by applying again the mentioned method, thus considerably increasing the working life of the gratings.

Referring to the accompanying drawings, Figures 1 and 2 show a grating *b* in transverse section provided with the usual slits *a*. The slits are of uniform width at the upper surface of the plate and then widen out below as shown. In order to narrow the upper aperture of the slits shown in Fig. 1, in accordance with the present invention, a tool *c* having a wedge-shaped acting surface is driven into the plate *b* between each pair of slits and parallel thereto. This operation displaces the particles of metal laterally and thus effects the narrowing of the slits at the mouth as is shown in Figs. 2 and 3. The wedge shaped tool may be a chisel, a pressing wheel or the like. The grooves *d* produced by the tool render the surface of the grating rough, which has for effect to prevent or lessen the slipping of the loam or clay on the surface of the grating. When the slits have become widened by use, the wedge-shaped tool may be again forced into the existing grooves *d*, so as to again narrow the mouths of the slits in the manner already described, so that the life of the plate may be considerably prolonged. In gratings with slits narrowed in accordance with this method the slits widen out in an approximately uniform manner from the top to the under surface of the plate, so that any jamming of stones or friction of the material under treatment against the sides of the slits is obviated.

What I claim is:—

A method of narrowing slits punched into plates of hard metal, consisting in driving a wedge-shaped tool into the plate between and parallel to the edges of the slits, so as

to narrow the mouths of the slits by the lateral displacement of the metal, whereby the width of the slit-mouths is rendered independent of the hardness and thickness of the metal-plates and narrow slits are permitted to be made in comparatively thick plates.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL BAUR.

Witnesses:

HERMANN HUBER,  
JOSEPH SIMON.