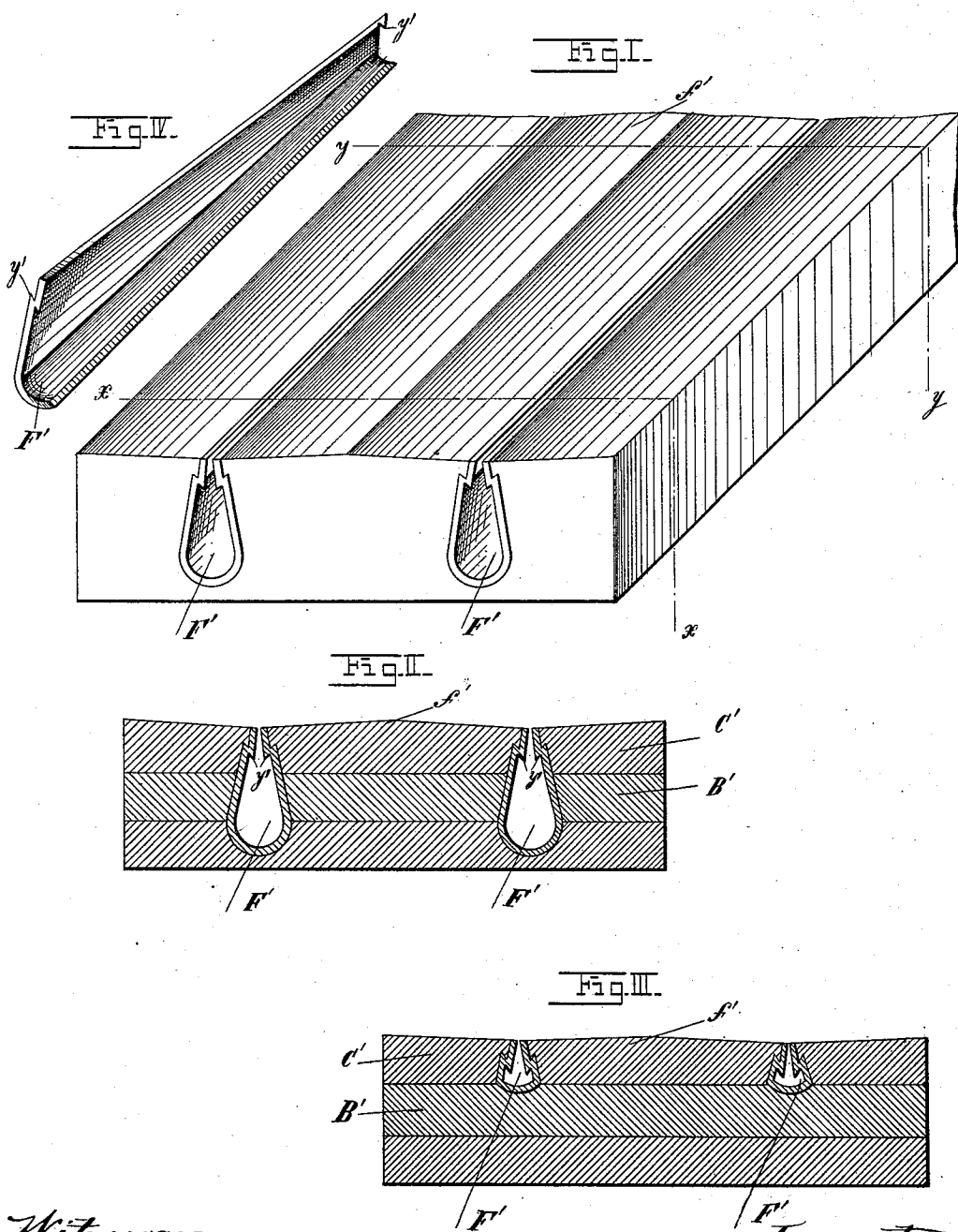


(No Model.)

J. JUNGBLUTH.  
PAVEMENT FOR STABLES.

No. 469,044.

Patented Feb. 16, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHANN JUNGBLUTH, OF COLOGNE, GERMANY.

## PAVEMENT FOR STABLES.

SPECIFICATION forming part of Letters Patent No. 469,044, dated February 16, 1892.

Application filed June 15, 1891. Serial No. 396,276. (No model.)

*To all whom it may concern:*

Be it known that I, JOHANN JUNGBLUTH, invalid, of Cologne, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Pavements for Stables, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to outlets or drain-channels for pavements, which channels are gradually deepened and enlarged laterally and are adapted for the flooring of stables, baths, slaughter-houses, and the like. These outlets or drains are constructed separately of any suitable material, such as iron, clay, cement, &c., and are employed in such way as to receive all the drain-water from the surface to which they are applied and conduct it away below the surface, so that the latter may be kept comparatively dry. These drain-pipes, as stated, are constructed separately and are therefore easily transported to any place for use. The pipes are in shape something like an elongated oval in cross-section, and at one end of the oval have a narrow opening, so that there is a narrow slot running along the entire length of each pipe. They are put into the ground with the slot uppermost, and are then surrounded by a layer of concrete, or the flooring may be made of stone, or cement, or any other suitable material. In order to facilitate the flow of the drainage into these pipes, the flooring is slightly inclined toward the slotted channels. They are also thus made comfortable for animals in walking, standing, or lying thereon.

In the accompanying drawings, Figure I is a perspective view of a flooring with the in-laid channels or drain-pipes; Fig. II, a cross-section of the same, taken on the line  $x x$  of Fig. I; Fig. III, a similar section taken on the line  $y y$  of Fig. I, and Fig. IV a longitudinal section in perspective of one of the pipes detached.

In the drawings,  $F'$  represents the drain-pipes, which, as stated above, are made separately and of any suitable material. These pipes are of a somewhat oval shape in cross-section, as seen in Figs. I and II; but the upper end of the oval is contracted and is slotted, as also seen in the same figures. Near its upper edge each side of the pipe has a short

sharp bend inward about at right angles to the face of the pipe, and is then bent upward at about right angles and carried up straight to the upper edge. This provides a projecting edge  $y'$ , extending inward slightly on each side of the pipe just below the slot-opening and standing completely away from the inner faces of the pipe below. It will also be seen that the opening of the slot above these projections is slightly tapering upward, or, in other words, is flaring from the extreme edges downward to these projections, as seen in Figs. I and II. The drain-pipes are also made much smaller at one end than at the other, the enlargement being gradual between the two ends. The enlargement, however, is effected by deepening and widening the pipe below the projection  $y'$ , while the slotted portion remains practically the same, as seen in Figs. III and IV. It is evident that if the pipes are laid with their upper slotted edges in a horizontal plane, or thereabout, there will be a gradual incline at the bottom thereof from the smaller end to the larger. In some stances—such, for instance, as the flooring of stables—a slight inclination is usually given to the flooring itself, in which case the downward inclination of the pipes will of course be correspondingly increased. These drain-pipes  $F'$  are set either horizontally or at any desired inclination in a foundation of fine and well-strained sand, immediately above which the space between the pipes is filled up part way with a layer of concrete  $B'$ , and upon the latter is a top layer  $C'$  of any suitable material, such as brick, concrete cement, wood, or any other material suitable for flooring in different places. This upper layer fills the entire space between the drain-pipes up to the slotted edges thereof, and, if desired, the sections between the pipes may be raised slightly in the center, so as to provide a ridge  $f'$ , running lengthwise between the pipes. This provides a slight inclination each way from the ridge toward the respective pipes and facilitates the drainage into the latter. If the side walls of the pipes were straight, the material passing into them through the slots would in some instances follow along the sides, clinging thereto, instead of dropping directly down to the bottom of the pipes. This of course prevents a complete and sat-

isfactory drainage. The angular inward projections  $y'$  obviate this difficulty, as obviously under this construction, as shown in the drawings, the matter passing into the slots will necessarily drop down from these projections, and so there will be no adherence of material to the walls of the pipes, which is objectionable because gradually filling up the latter and also infecting the air by retention within the drains. With my construction the material passing into the pipes, whether liquid or semi-liquid, must necessarily drop to the bottom of the drains and be carried off by the inclination of the latter. Of course a suitable water-supply is provided, the inlets to each drain-pipe being located at the highest portion thereof, which will be at the smaller ends, and with this provision the drain-pipes may be flushed whenever required.

20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A drain-pipe for stable-flooring and other like purposes, provided with an inlet-slot running lengthwise of its upper surface and having sharp angular internal projections  $y'$  arranged a little below the slot, substantially as described. 25

2. In a composition flooring for stables and other like purposes, the drain-pipes  $F'$ , slotted lengthwise along the surface and provided with angular internal projections  $y'$  a little below the slot, in combination with a lower layer of concrete  $B'$ , arranged between the said pipes, and an upper or surface-layer  $C'$  of cement or other suitable floor surface material, substantially as described. 30 35

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHANN JUNGBLUTH.

Witnesses:

J. H. LAUFHAUBER,  
OTTO BRAEGER.